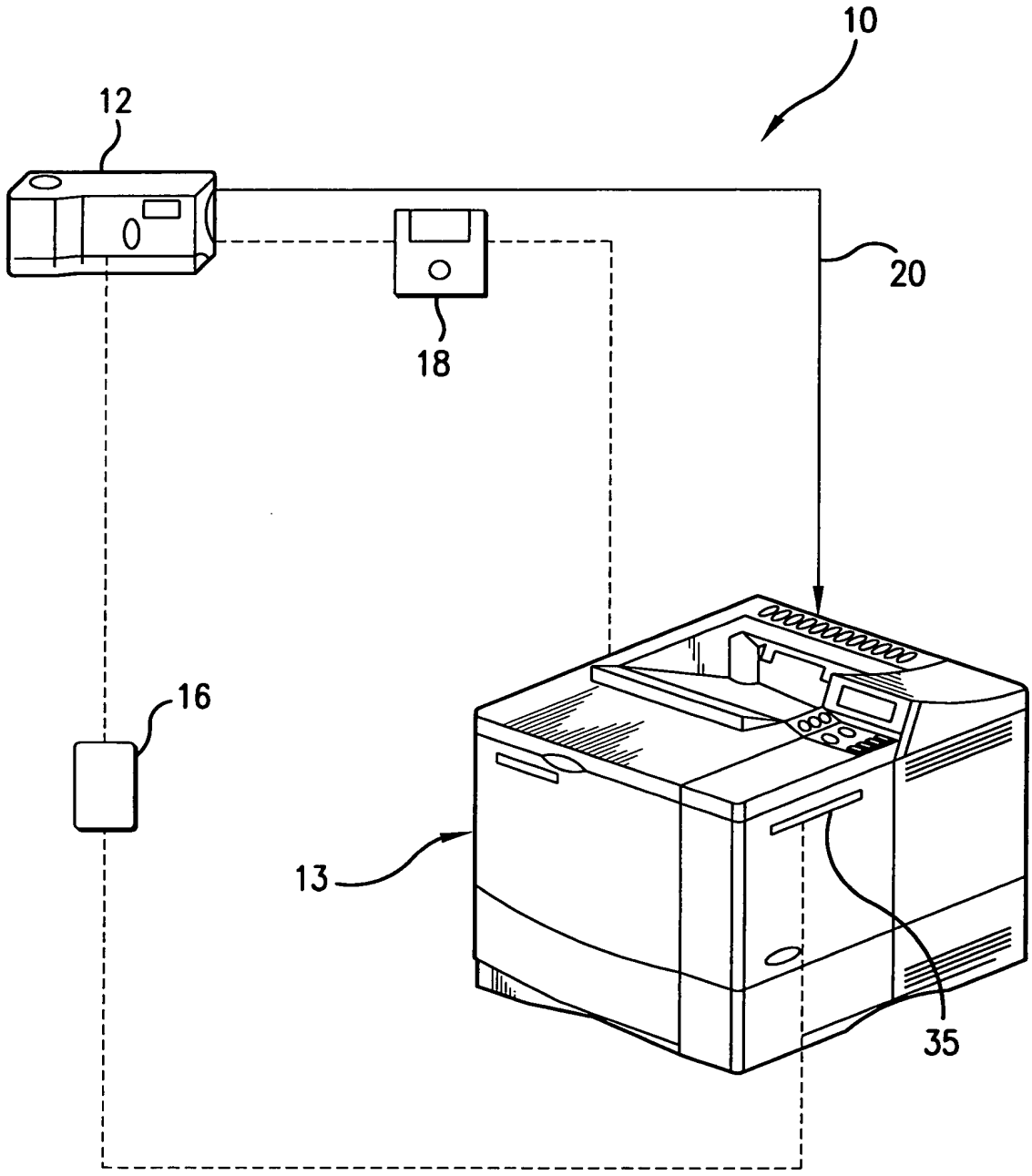


FIG.1

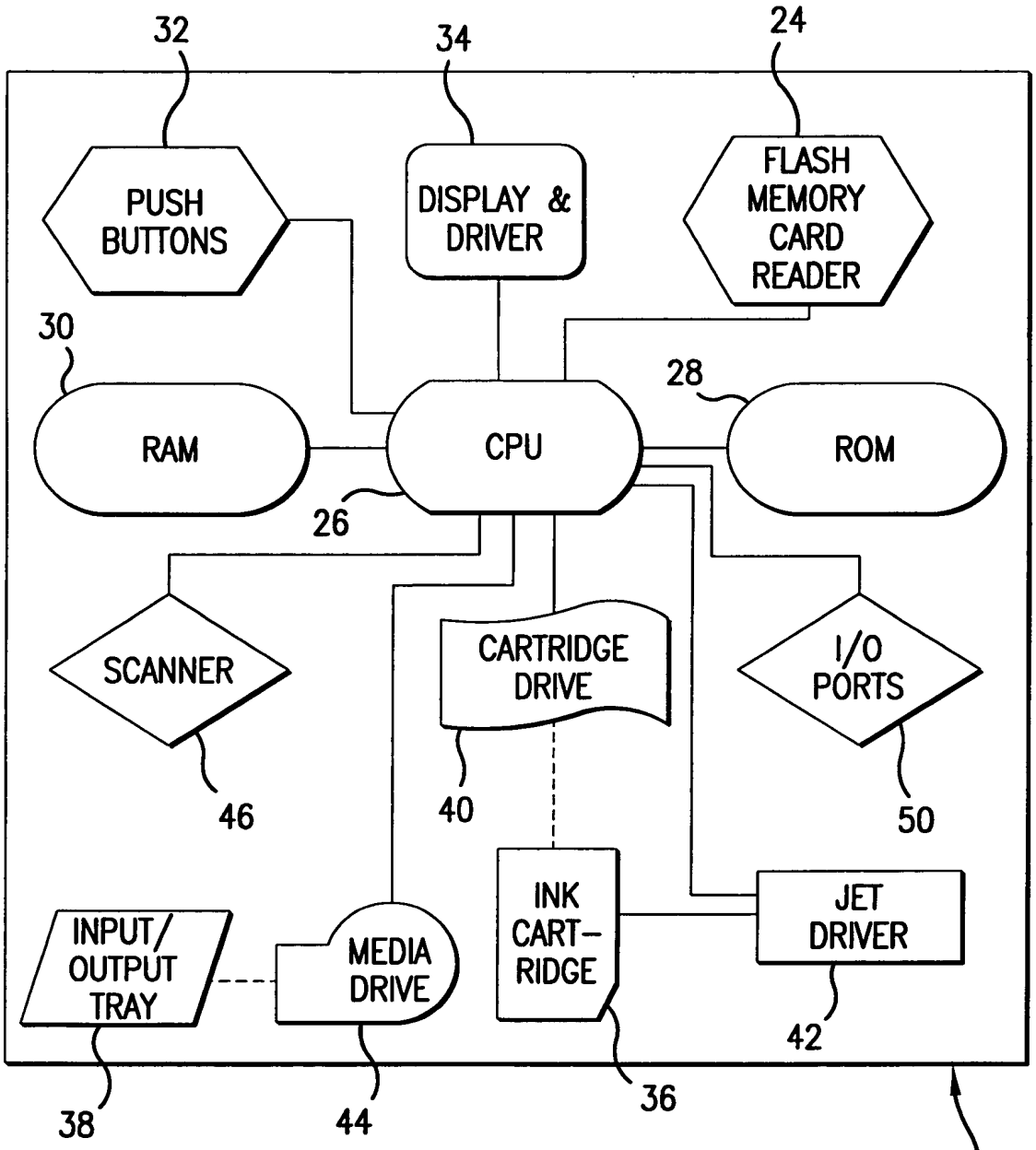

32
34
24
PUSH BUTTONS
DISPLAY & DRIVER
FLASH MEMORY CARD READER
30
28
RAM
CPU
ROM
26
SCANNER
CARTRIDGE DRIVE
I/O PORTS
46
40
50
INPUT/ OUTPUT TRAY
MEDIA DRIVE
INK CART- RIDGE
JET DRIVER
42
38
44
36
14

FIG.2

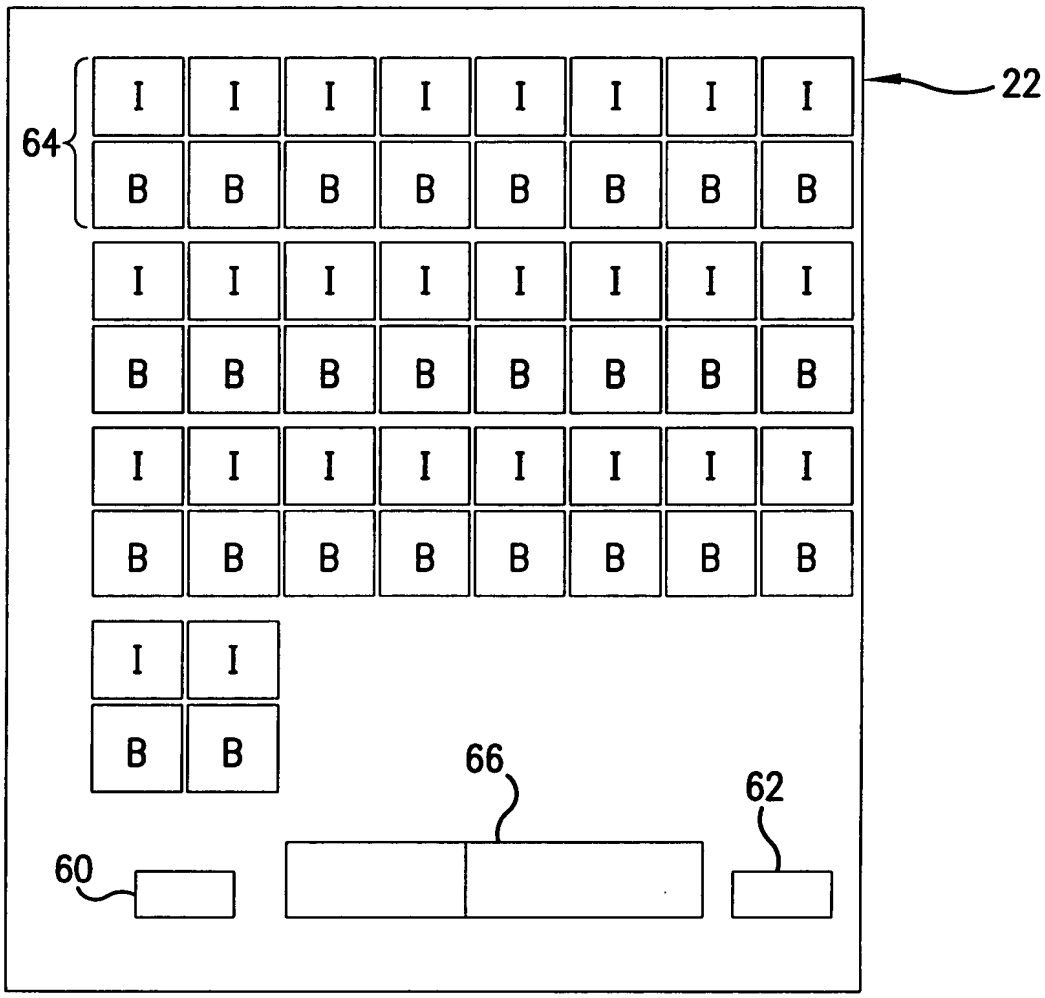


FIG.3A

66

SELECT PICTURES FOR STORAGE	ALL PICTURES ○ ALL PRINTED PICTURES ○ NONE ○

FIG.3E

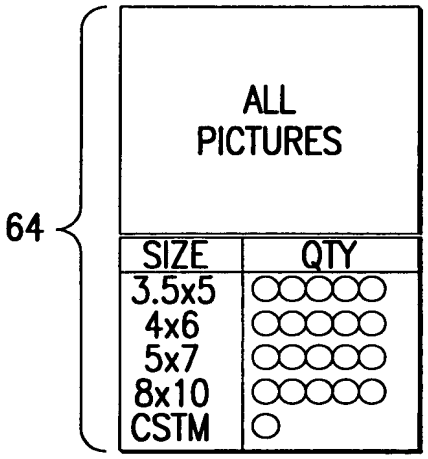


FIG.3B

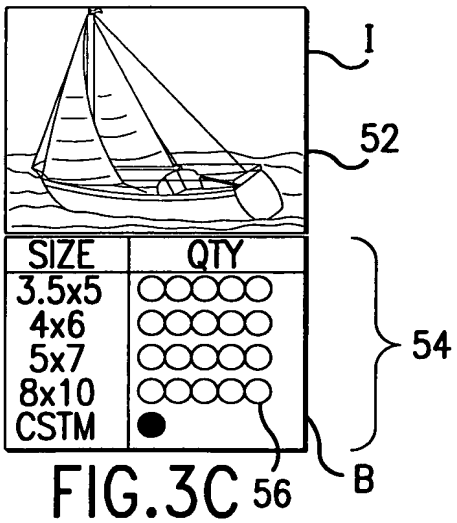


FIG.3C

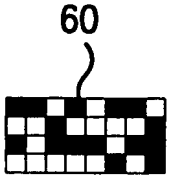


FIG.3D

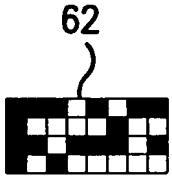


FIG.3F

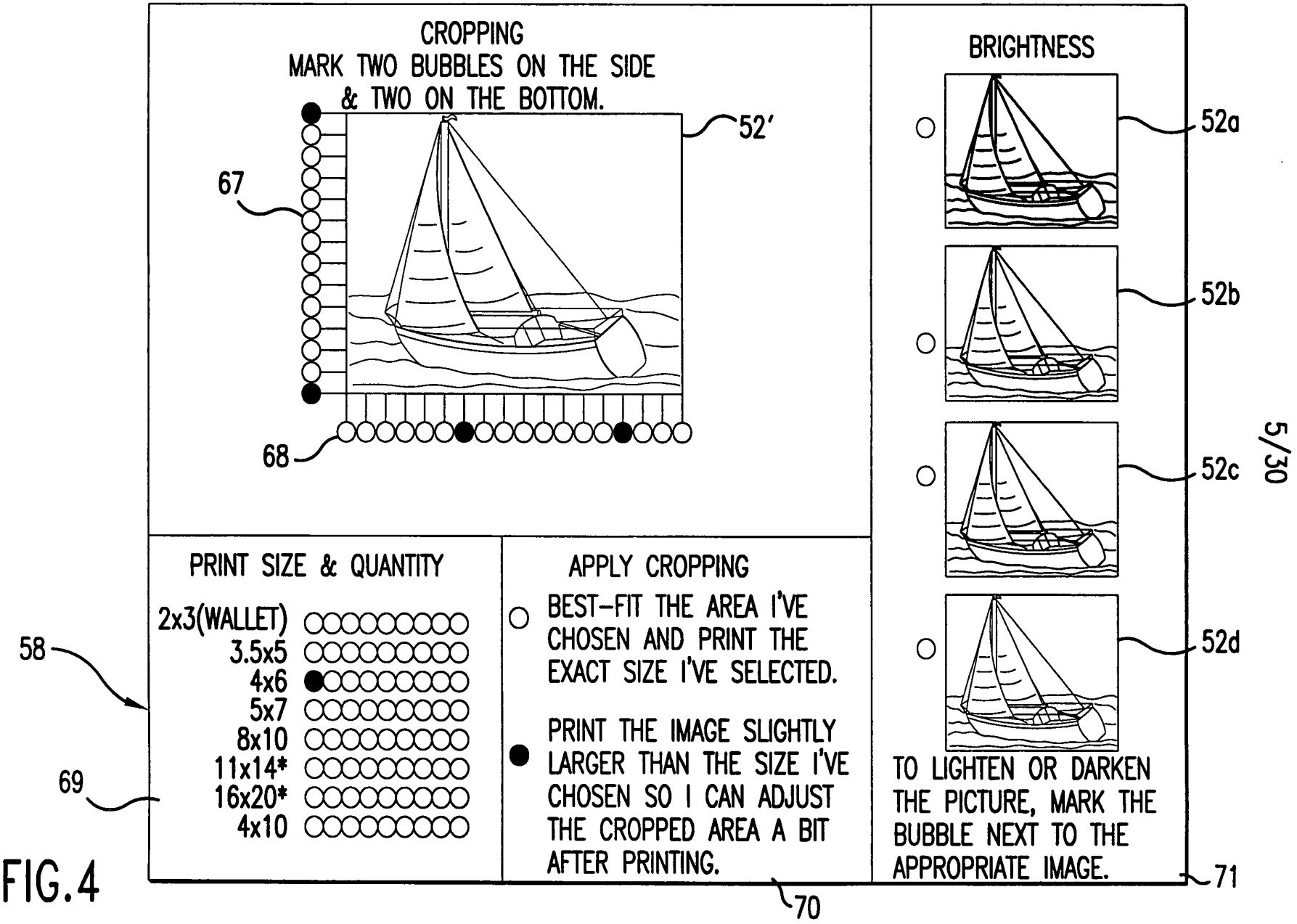

CROPPING
MARK TWO BUBBLES ON THE SIDE
& TWO ON THE BOTTOM.
52'
67
68
BRIGHTNESS
52a
52b
52c
52d
PRINT SIZE & QUANTITY
2x3(WALLET)
3.5x5
4x6
5x7
8x10
11x14*
16x20*
4x10
APPLY CROPPING
BEST-FIT THE AREA I'VE CHOSEN AND PRINT THE EXACT SIZE I'VE SELECTED.
PRINT THE IMAGE SLIGHTLY LARGER THAN THE SIZE I'VE CHOSEN SO I CAN ADJUST THE CROPPED AREA A BIT AFTER PRINTING.
TO LIGHTEN OR DARKEN THE PICTURE, MARK THE BUBBLE NEXT TO THE APPROPRIATE IMAGE.
58
69
70
71

FIG.4

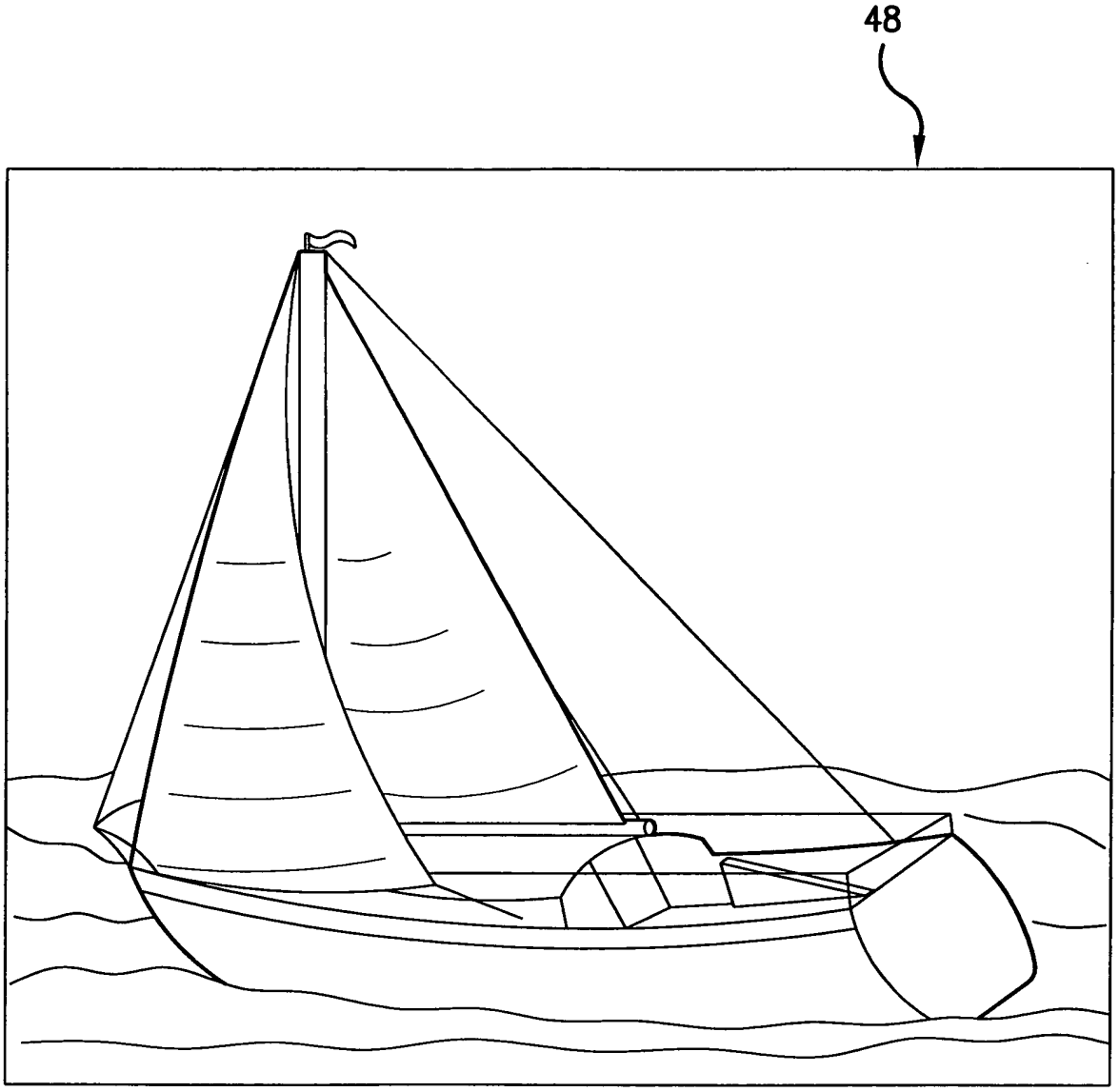


FIG.5

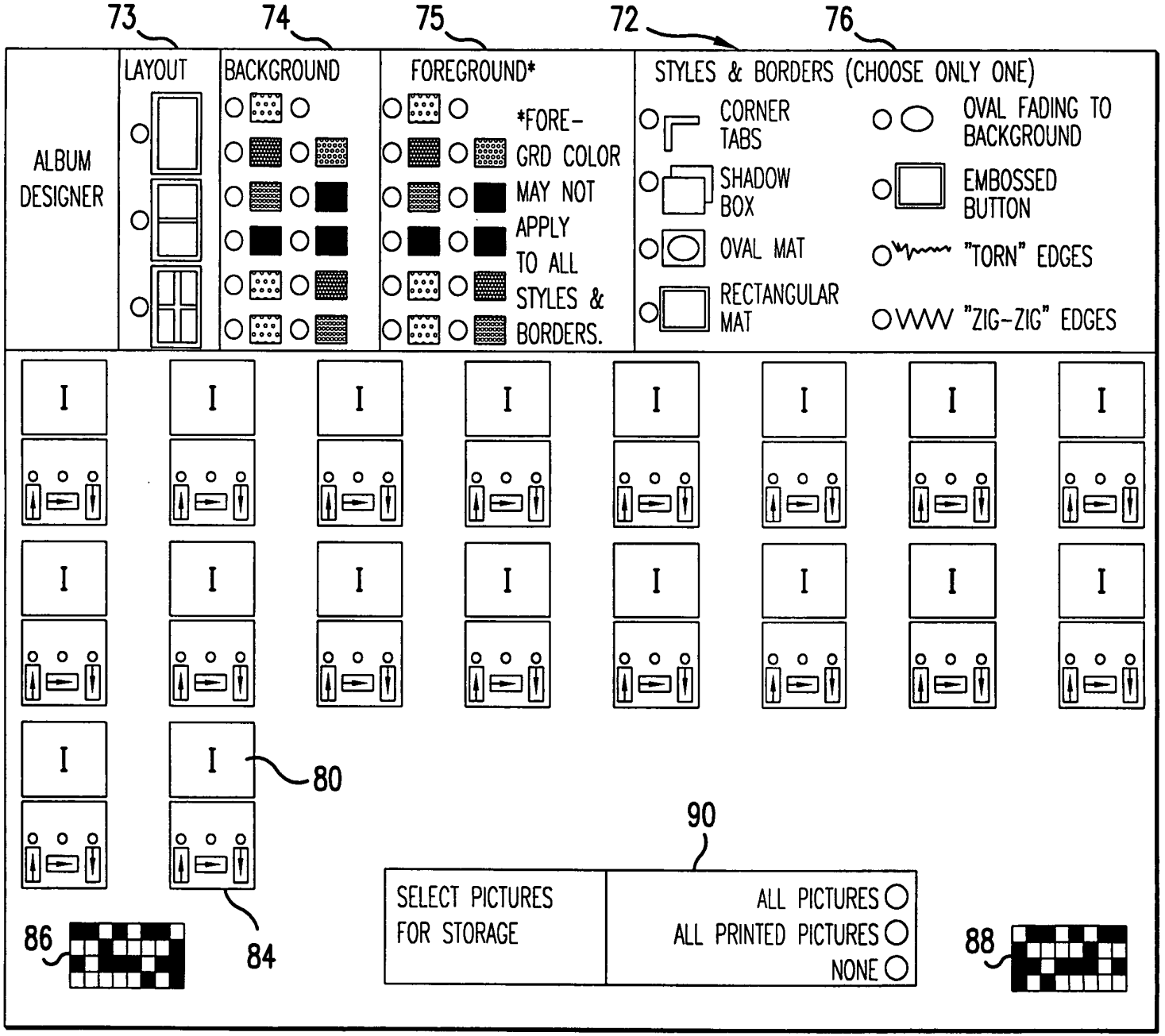

73
74
75
72
76
ALBUM DESIGNER
LAYOUT
BACKGROUND
FOREGROUND*
*FORE-GRD COLOR MAY NOT APPLY TO ALL STYLES & BORDERS.
STYLES & BORDERS (CHOOSE ONLY ONE)
CORNER TABS
SHADOW BOX
OVAL MAT
RECTANGULAR MAT
OVAL FADING TO BACKGROUND
EMBOSSED BUTTON
"TORN" EDGES
"ZIG-ZIG" EDGES
80
90
SELECT PICTURES FOR STORAGE
ALL PICTURES
ALL PRINTED PICTURES
NONE
86
84
88

FIG.6A

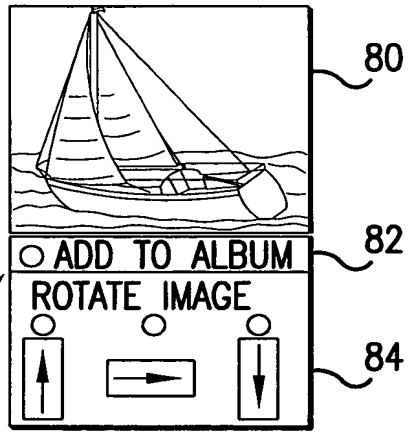


FIG.6B

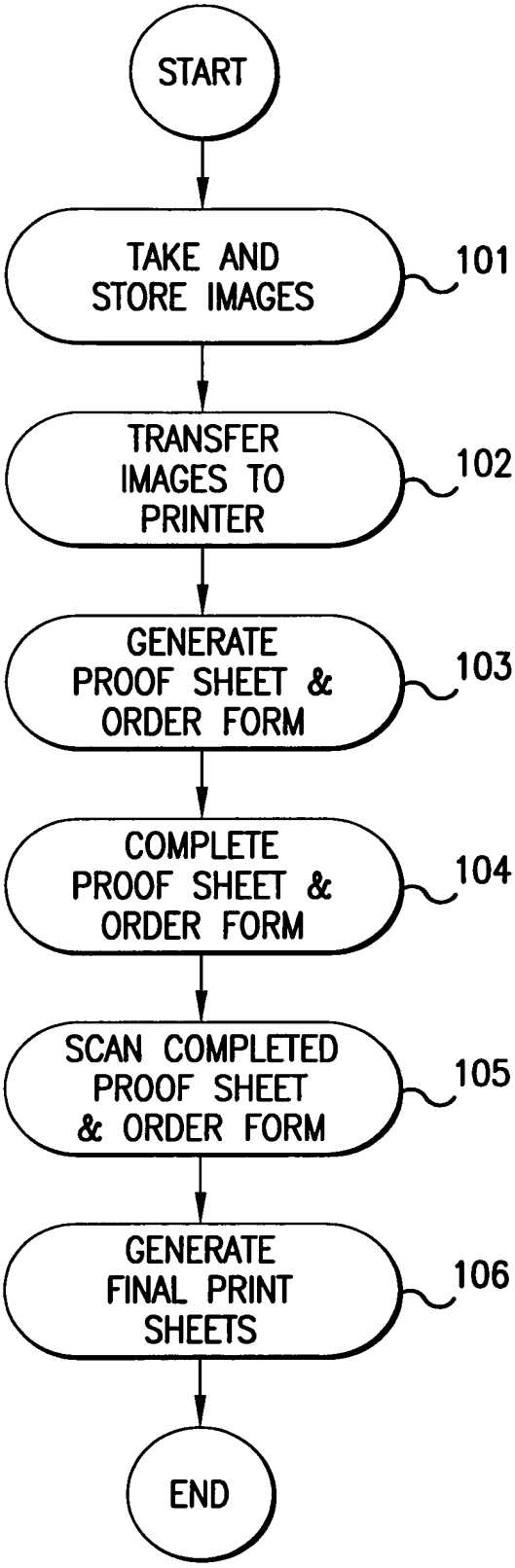


FIG.7

Docket No. 80356

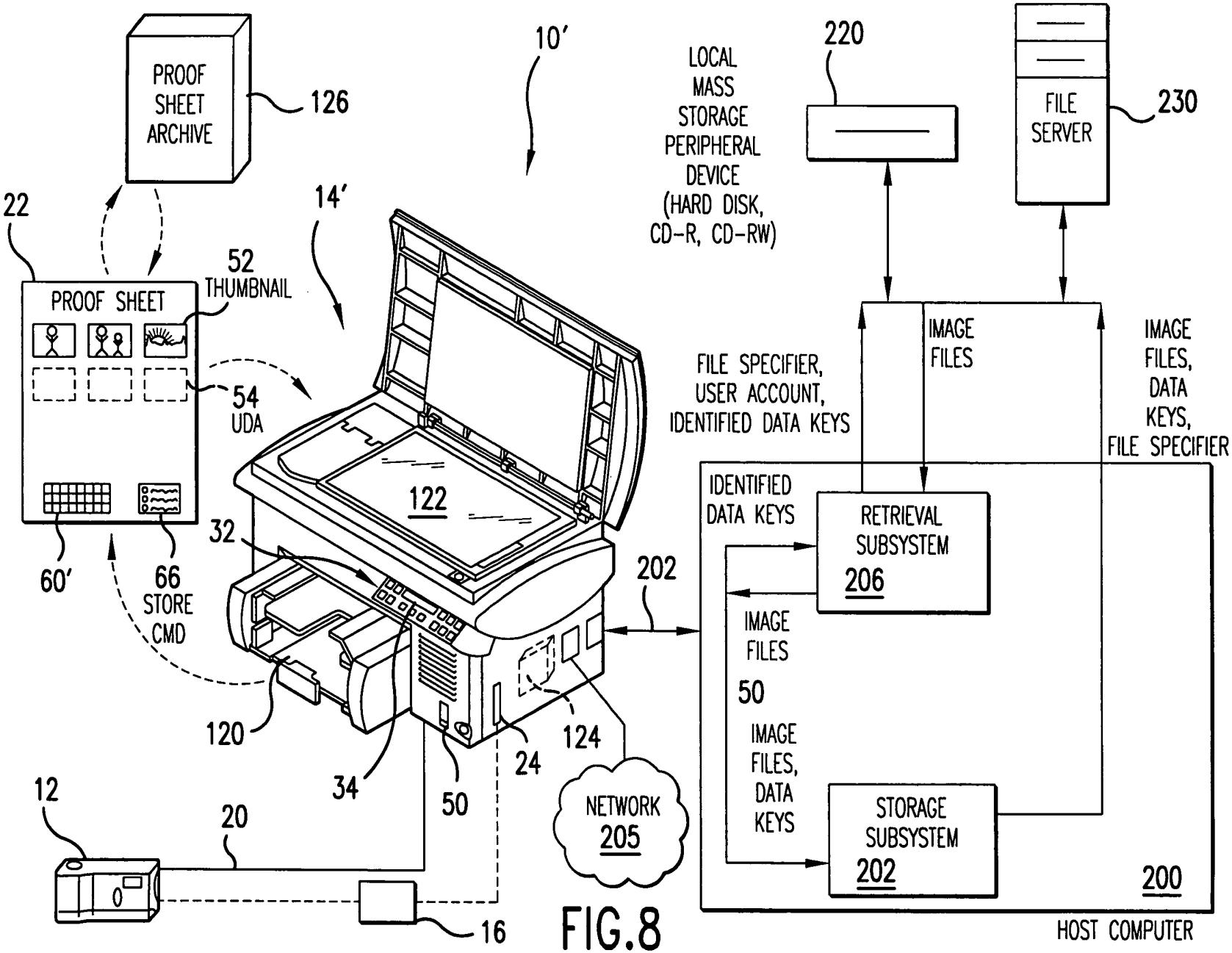

PROOF SHEET ARCHIVE
126
10'
LOCAL MASS STORAGE PERIPHERAL DEVICE (HARD DISK, CD-R, CD-RW)
220
FILE SERVER
230
22
14'
52 THUMBNAIL
PROOF SHEET
54 UDA
122
32
60'
66 STORE CMD
120
34
50
24
124
202
FILE SPECIFIER, USER ACCOUNT, IDENTIFIED DATA KEYS
IMAGE FILES
IMAGE FILES, DATA KEYS, FILE SPECIFIER
IDENTIFIED DATA KEYS
RETRIEVAL SUBSYSTEM 206
IMAGE FILES 50
IMAGE FILES, DATA KEYS
STORAGE SUBSYSTEM 202
200
HOST COMPUTER
NETWORK 205
12
20
16

FIG.8

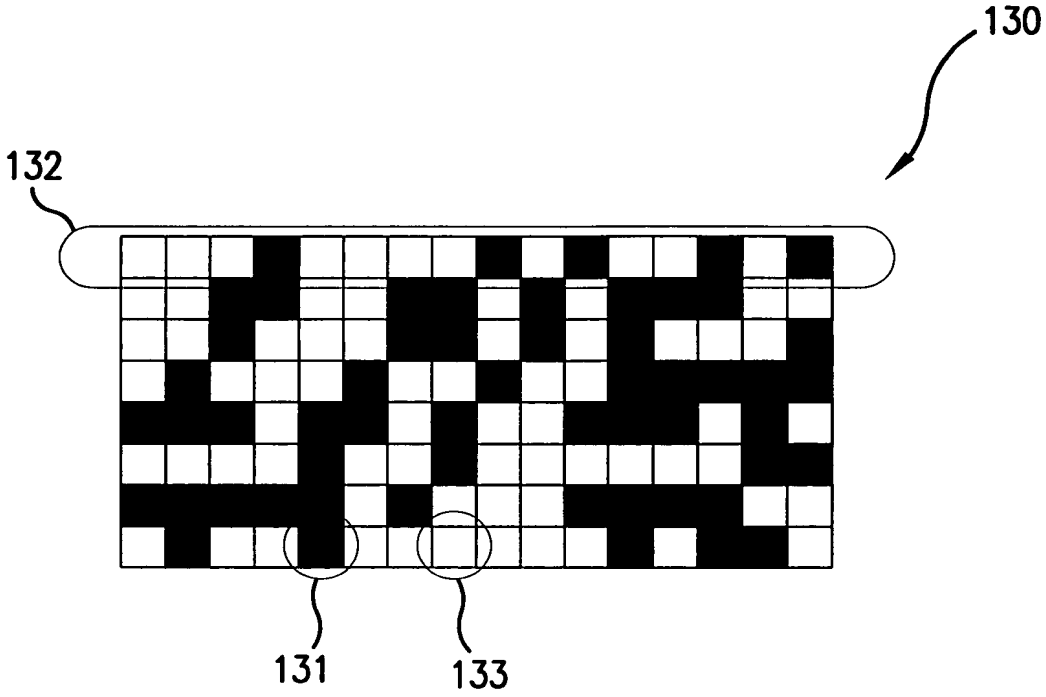


FIG.9A

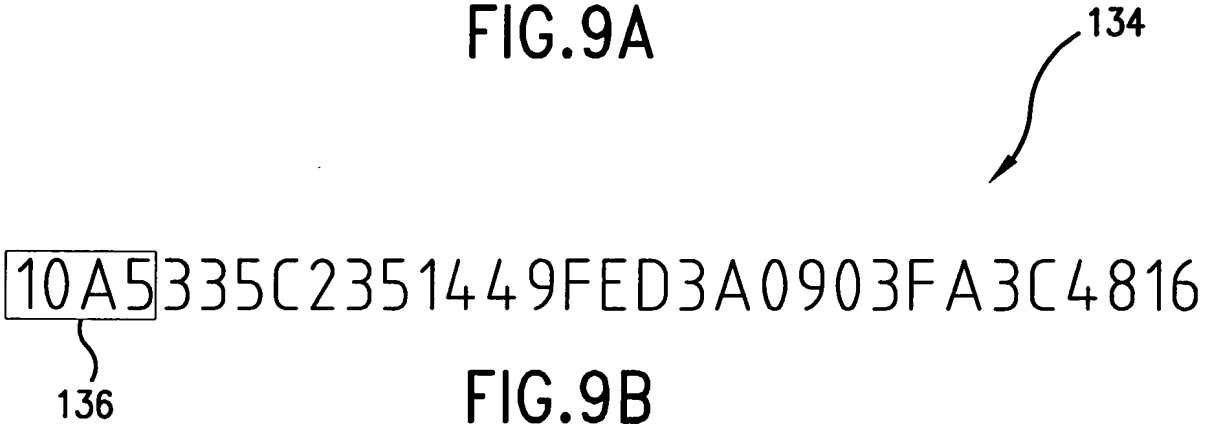


FIG.9B

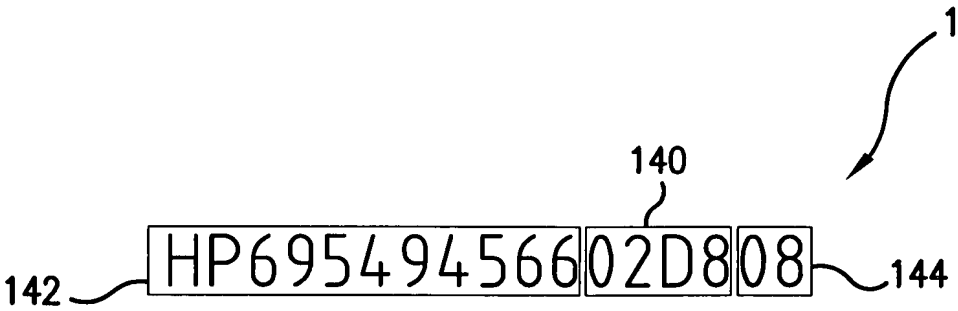


FIG.9C

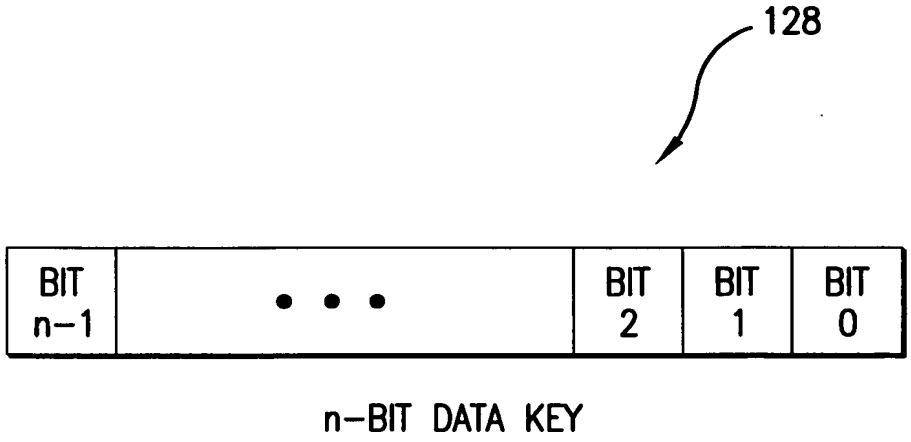


FIG.9D

09459305.030502

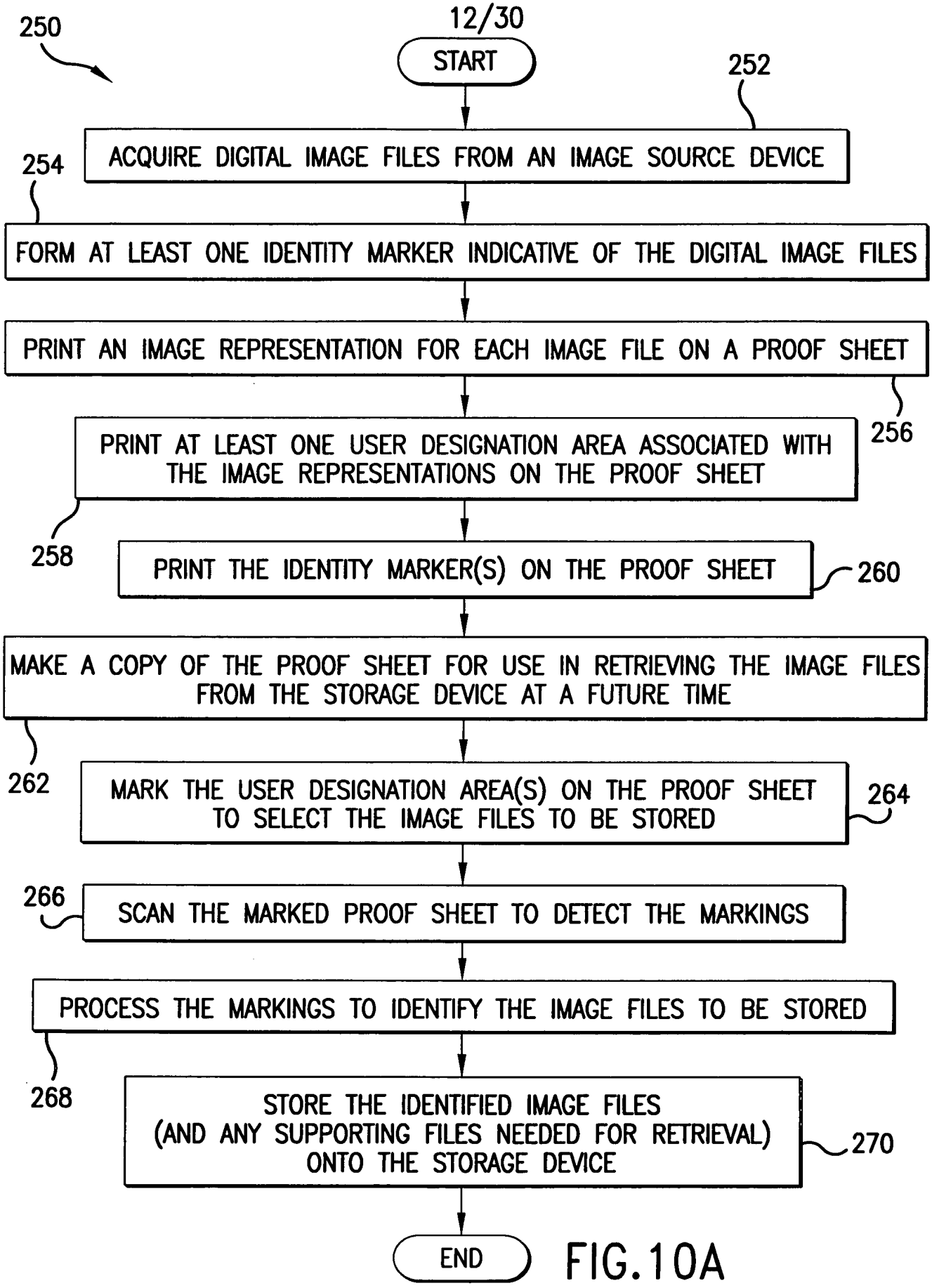


FIG.10A

Docket: 10030535-1

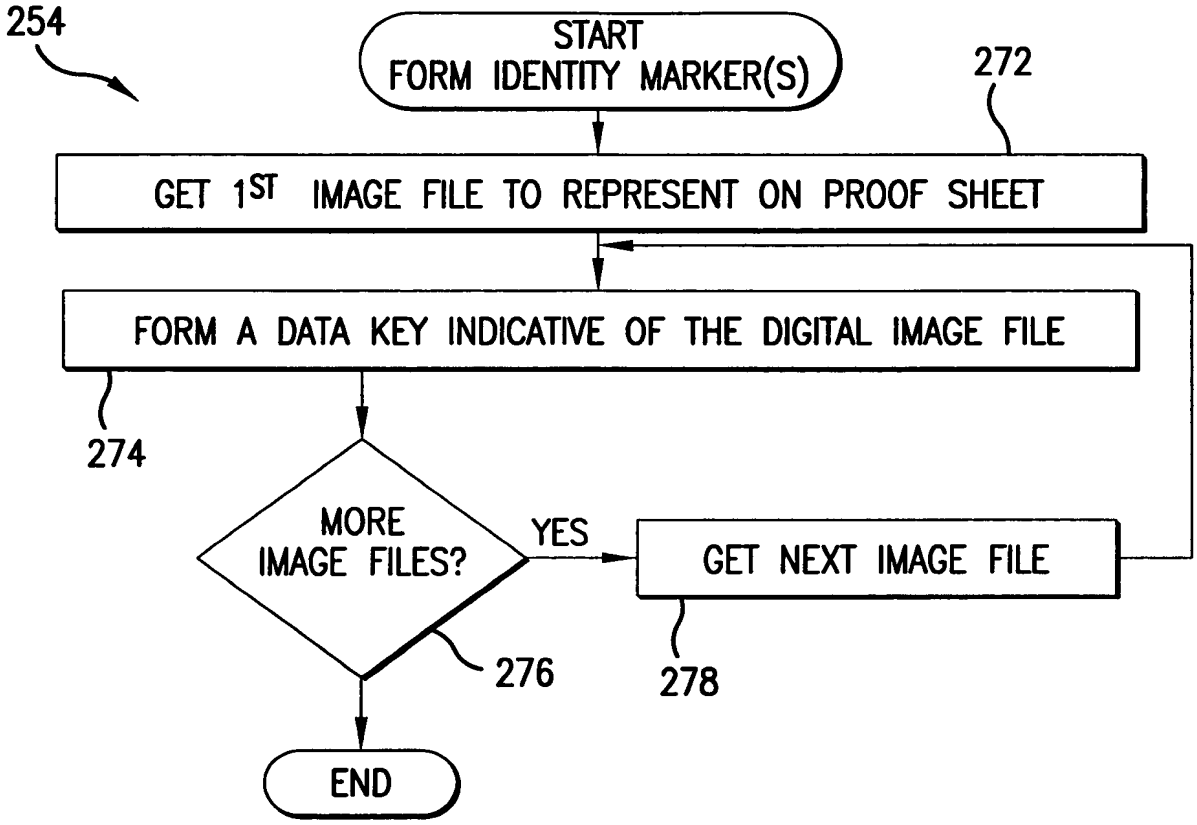


FIG.10B

Page 13 of 30 - 13/30 - Version: 2003.05.30

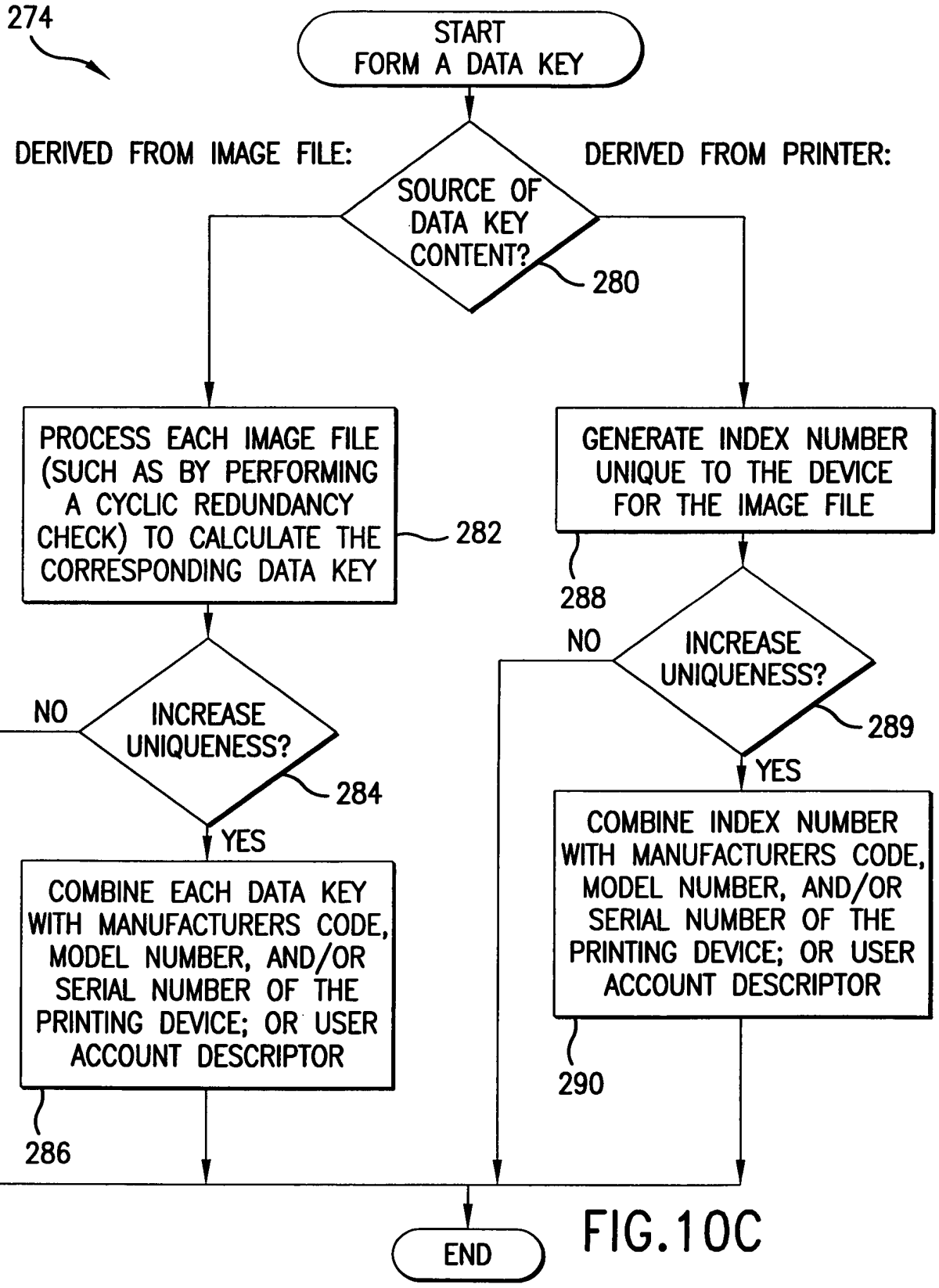

274
START
FORM A DATA KEY
DERIVED FROM IMAGE FILE:
DERIVED FROM PRINTER:
SOURCE OF DATA KEY CONTENT?
280
PROCESS EACH IMAGE FILE (SUCH AS BY PERFORMING A CYCLIC REDUNDANCY CHECK) TO CALCULATE THE CORRESPONDING DATA KEY
282
GENERATE INDEX NUMBER UNIQUE TO THE DEVICE FOR THE IMAGE FILE
288
NO
INCREASE UNIQUENESS?
284
INCREASE UNIQUENESS?
289
YES
YES
COMBINE EACH DATA KEY WITH MANUFACTURERS CODE, MODEL NUMBER, AND/OR SERIAL NUMBER OF THE PRINTING DEVICE; OR USER ACCOUNT DESCRIPTOR
286
COMBINE INDEX NUMBER WITH MANUFACTURERS CODE, MODEL NUMBER, AND/OR SERIAL NUMBER OF THE PRINTING DEVICE; OR USER ACCOUNT DESCRIPTOR
290
END

FIG.10C

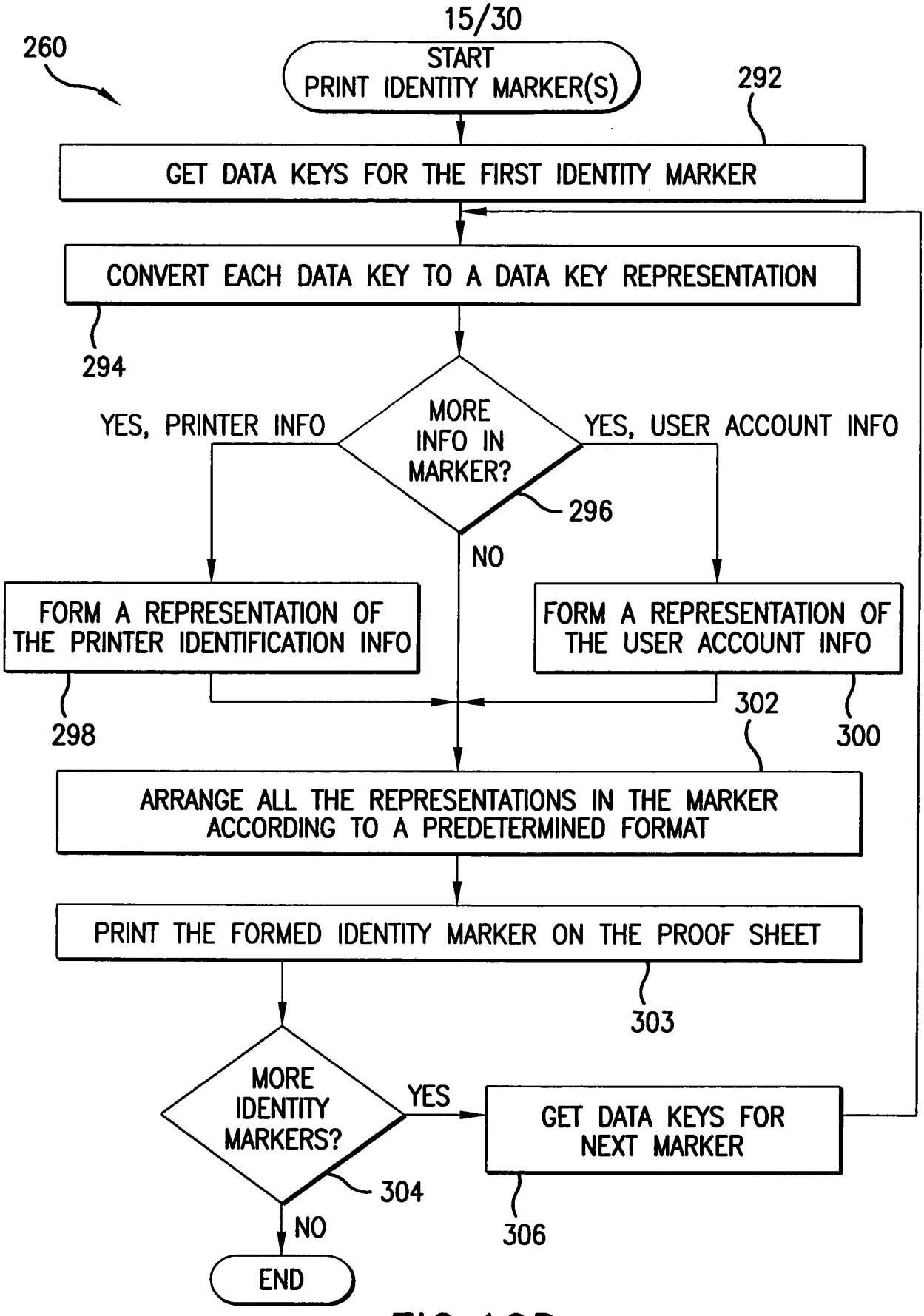

260
START
PRINT IDENTITY MARKER(S)
292
GET DATA KEYS FOR THE FIRST IDENTITY MARKER
CONVERT EACH DATA KEY TO A DATA KEY REPRESENTATION
294
MORE INFO IN MARKER?
296
YES, PRINTER INFO
YES, USER ACCOUNT INFO
NO
FORM A REPRESENTATION OF THE PRINTER IDENTIFICATION INFO
298
FORM A REPRESENTATION OF THE USER ACCOUNT INFO
300
302
ARRANGE ALL THE REPRESENTATIONS IN THE MARKER ACCORDING TO A PREDETERMINED FORMAT
PRINT THE FORMED IDENTITY MARKER ON THE PROOF SHEET
303
MORE IDENTITY MARKERS?
304
YES
GET DATA KEYS FOR NEXT MARKER
306
NO
END

FIG.10D

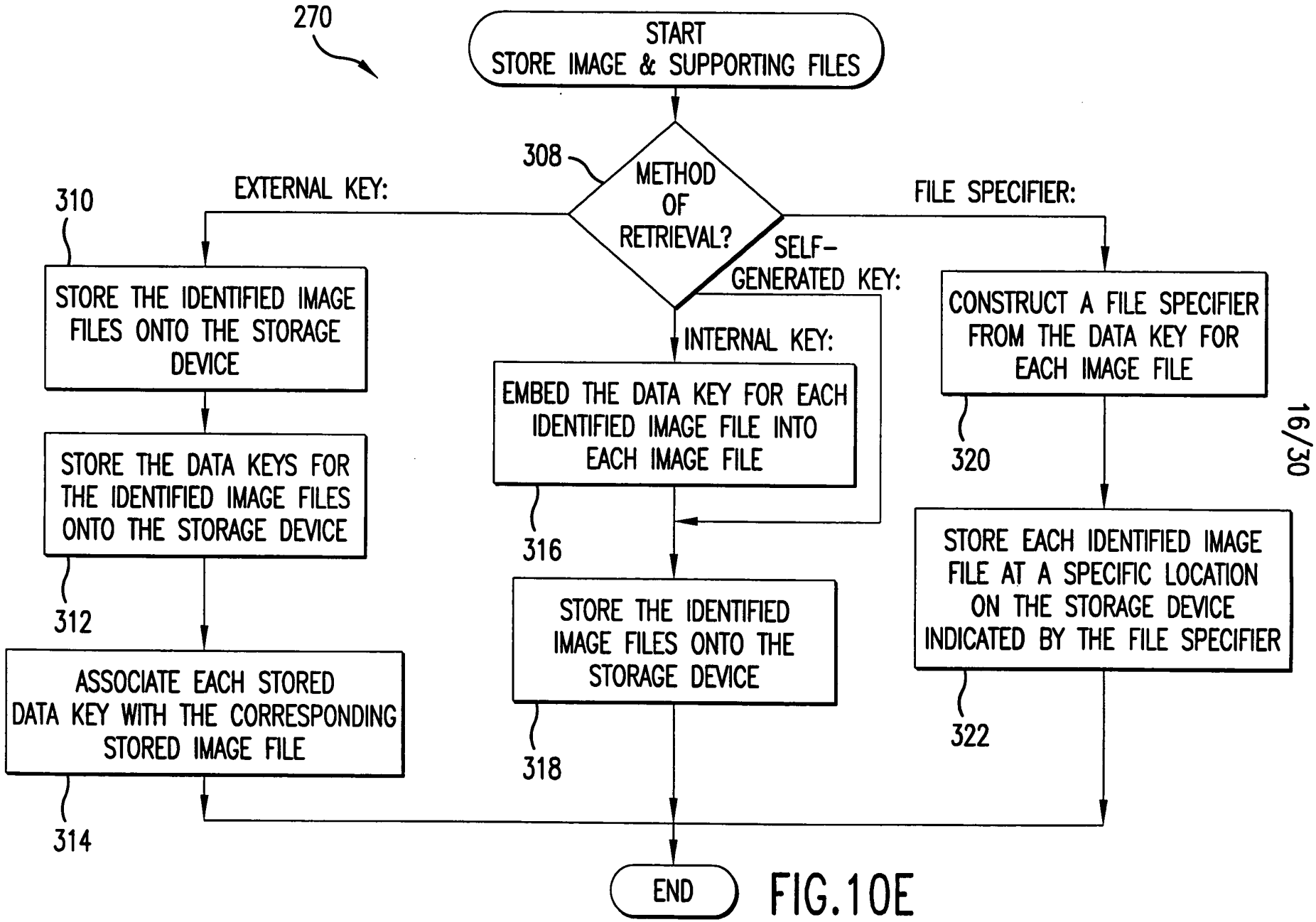

270
START
STORE IMAGE & SUPPORTING FILES
308
METHOD OF RETRIEVAL?
EXTERNAL KEY:
SELF-GENERATED KEY:
FILE SPECIFIER:
310
STORE THE IDENTIFIED IMAGE FILES ONTO THE STORAGE DEVICE
STORE THE DATA KEYS FOR THE IDENTIFIED IMAGE FILES ONTO THE STORAGE DEVICE
312
ASSOCIATE EACH STORED DATA KEY WITH THE CORRESPONDING STORED IMAGE FILE
314
INTERNAL KEY:
EMBED THE DATA KEY FOR EACH IDENTIFIED IMAGE FILE INTO EACH IMAGE FILE
316
STORE THE IDENTIFIED IMAGE FILES ONTO THE STORAGE DEVICE
318
CONSTRUCT A FILE SPECIFIER FROM THE DATA KEY FOR EACH IMAGE FILE
320
STORE EACH IDENTIFIED IMAGE FILE AT A SPECIFIC LOCATION ON THE STORAGE DEVICE INDICATED BY THE FILE SPECIFIER
322
END

FIG.10E

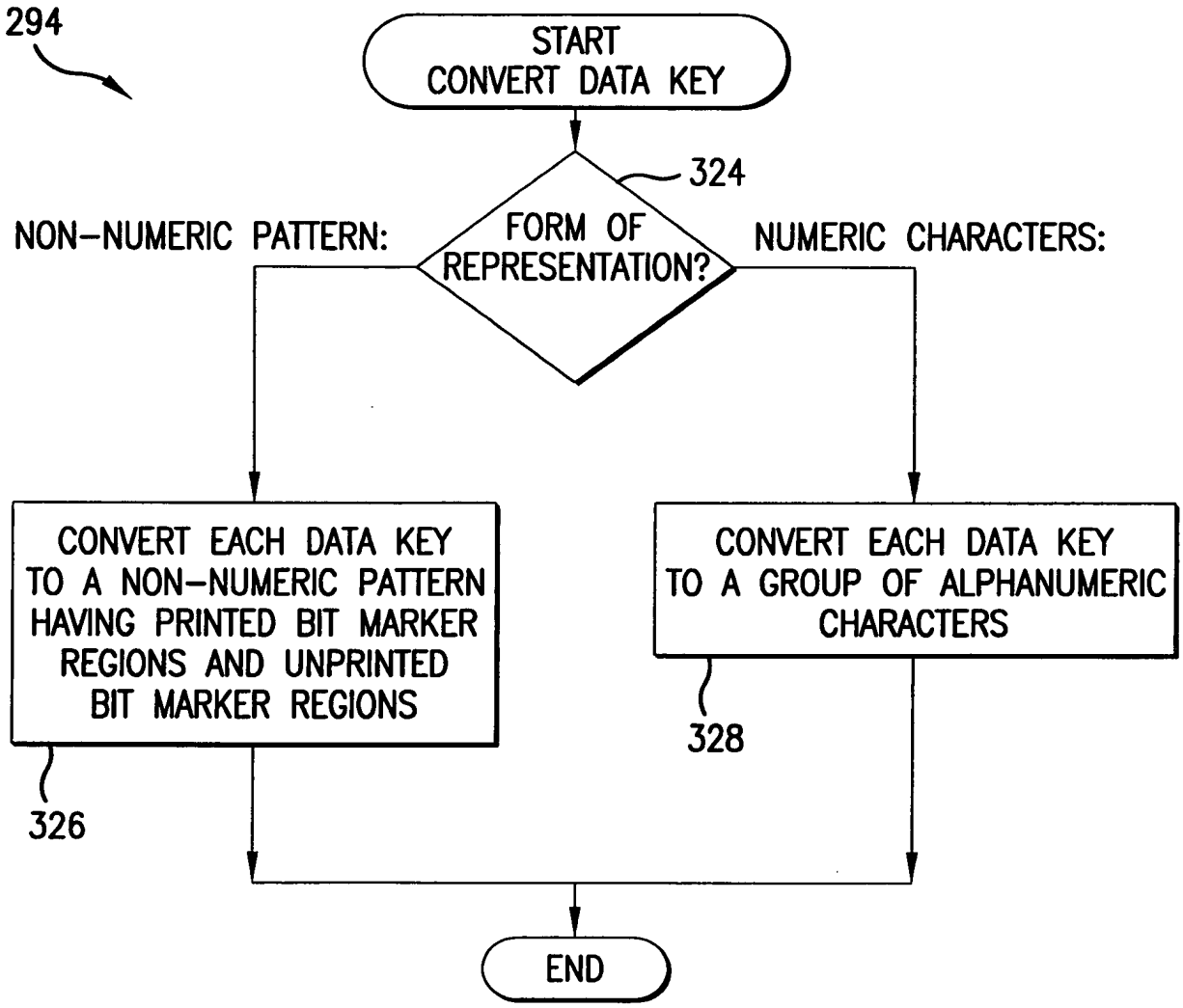

294
START
CONVERT DATA KEY
324
FORM OF REPRESENTATION?
NON-NUMERIC PATTERN:
NUMERIC CHARACTERS:
CONVERT EACH DATA KEY TO A NON-NUMERIC PATTERN HAVING PRINTED BIT MARKER REGIONS AND UNPRINTED BIT MARKER REGIONS
326
CONVERT EACH DATA KEY TO A GROUP OF ALPHANUMERIC CHARACTERS
328
END

FIG.10F

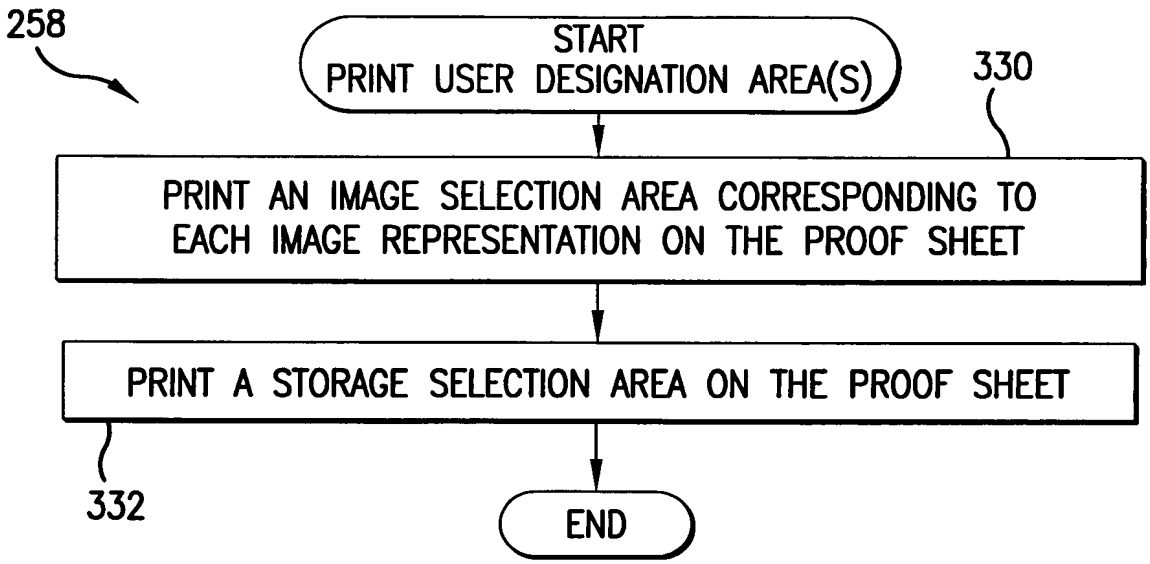


FIG.10G

Docket No. 10030501-1

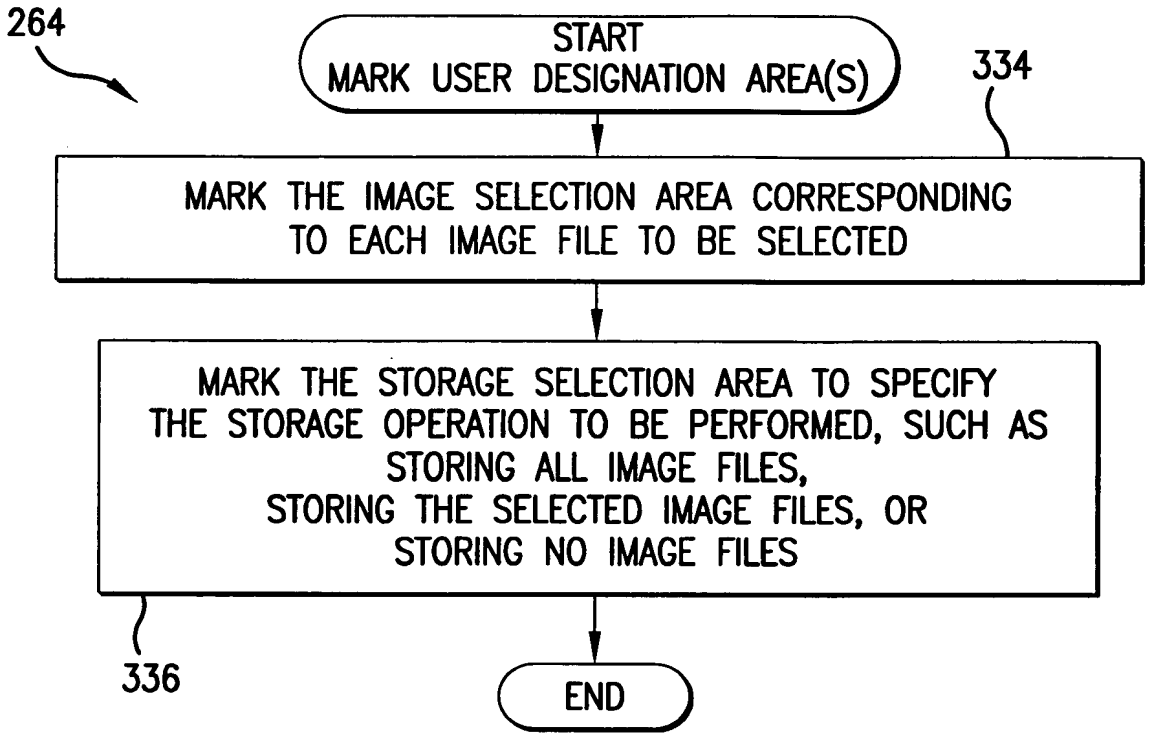


FIG.10H

Page 30 of 56 - 09/05/2003

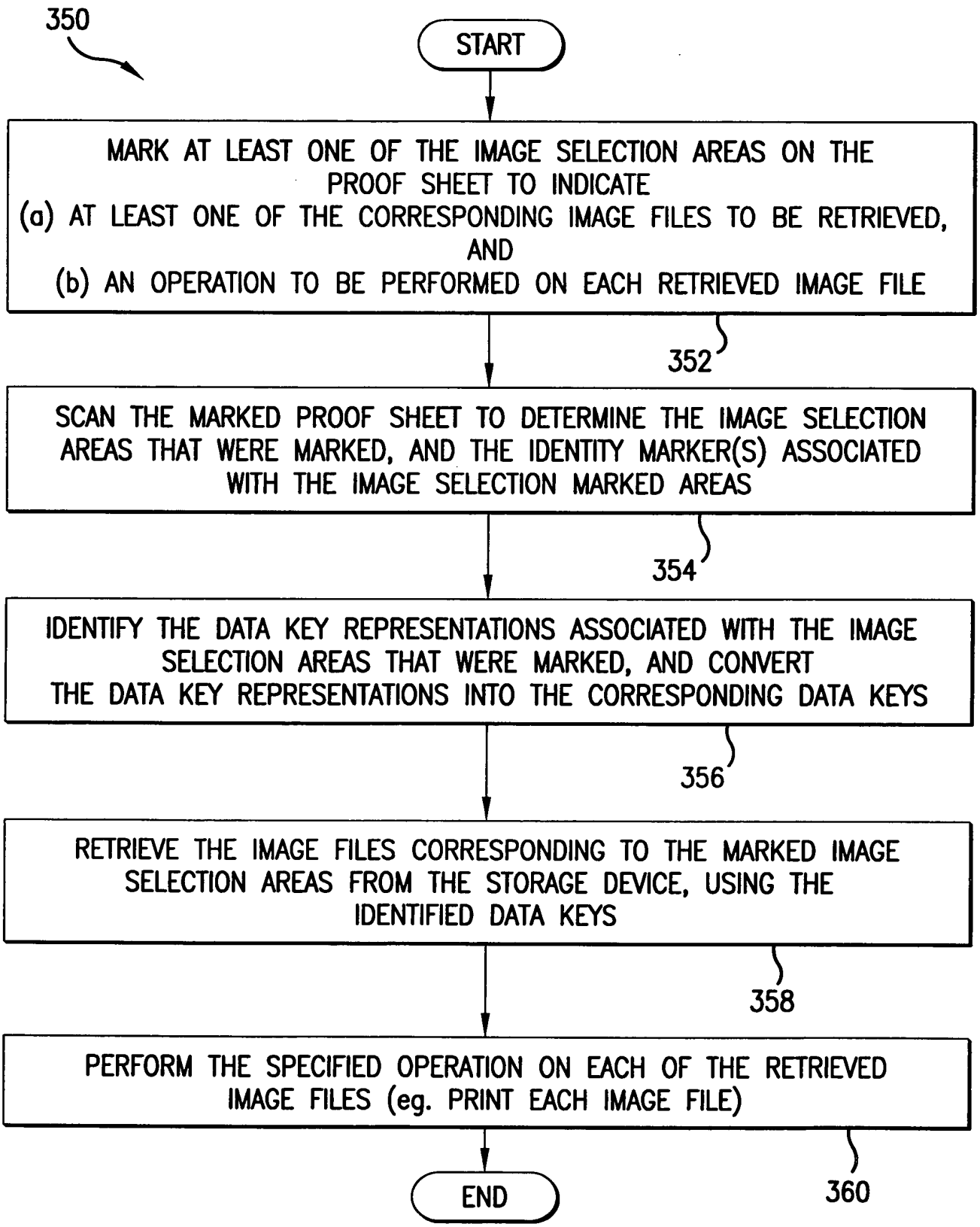

350
START
MARK AT LEAST ONE OF THE IMAGE SELECTION AREAS ON THE PROOF SHEET TO INDICATE
(a) AT LEAST ONE OF THE CORRESPONDING IMAGE FILES TO BE RETRIEVED, AND
(b) AN OPERATION TO BE PERFORMED ON EACH RETRIEVED IMAGE FILE
352
SCAN THE MARKED PROOF SHEET TO DETERMINE THE IMAGE SELECTION AREAS THAT WERE MARKED, AND THE IDENTITY MARKER(S) ASSOCIATED WITH THE IMAGE SELECTION MARKED AREAS
354
IDENTIFY THE DATA KEY REPRESENTATIONS ASSOCIATED WITH THE IMAGE SELECTION AREAS THAT WERE MARKED, AND CONVERT THE DATA KEY REPRESENTATIONS INTO THE CORRESPONDING DATA KEYS
356
RETRIEVE THE IMAGE FILES CORRESPONDING TO THE MARKED IMAGE SELECTION AREAS FROM THE STORAGE DEVICE, USING THE IDENTIFIED DATA KEYS
358
PERFORM THE SPECIFIED OPERATION ON EACH OF THE RETRIEVED IMAGE FILES (eg. PRINT EACH IMAGE FILE)
END
360

FIG.11A

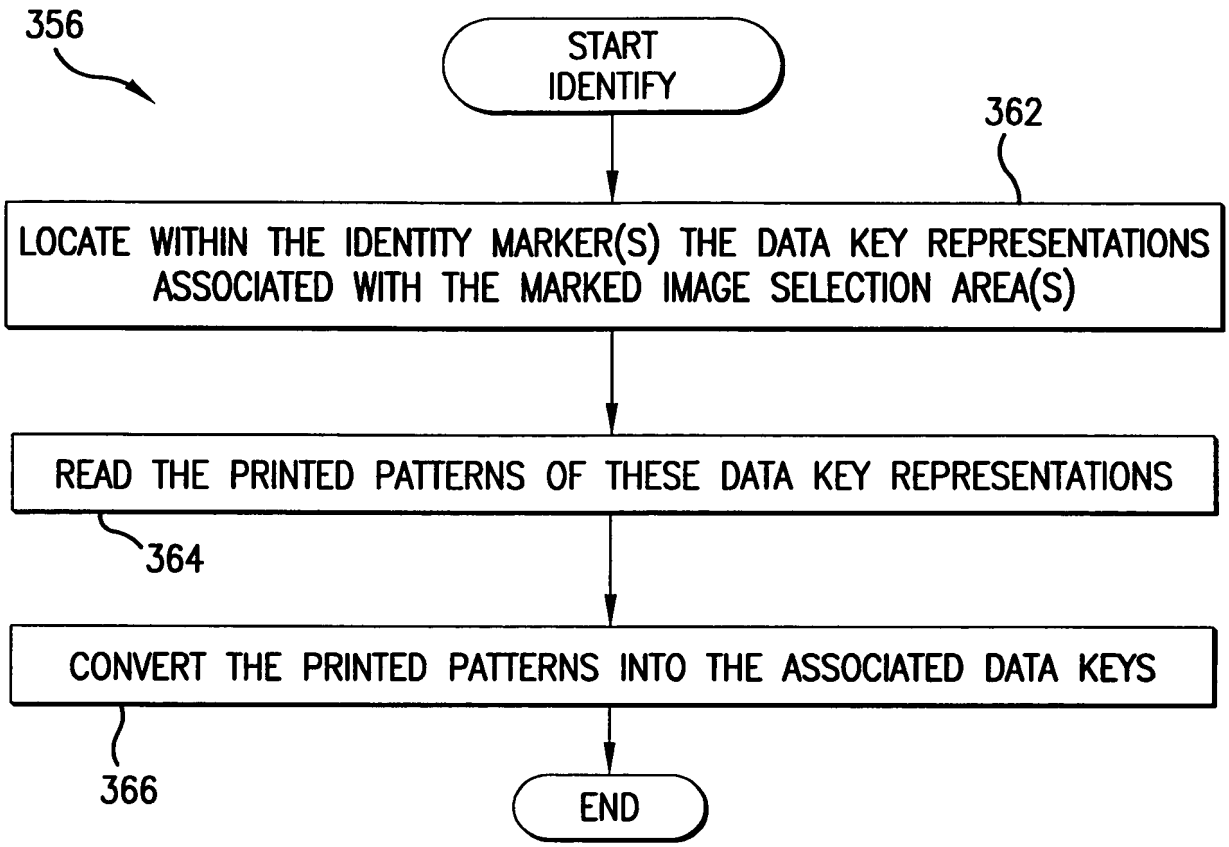


FIG.11B

Document Security Systems, Inc.

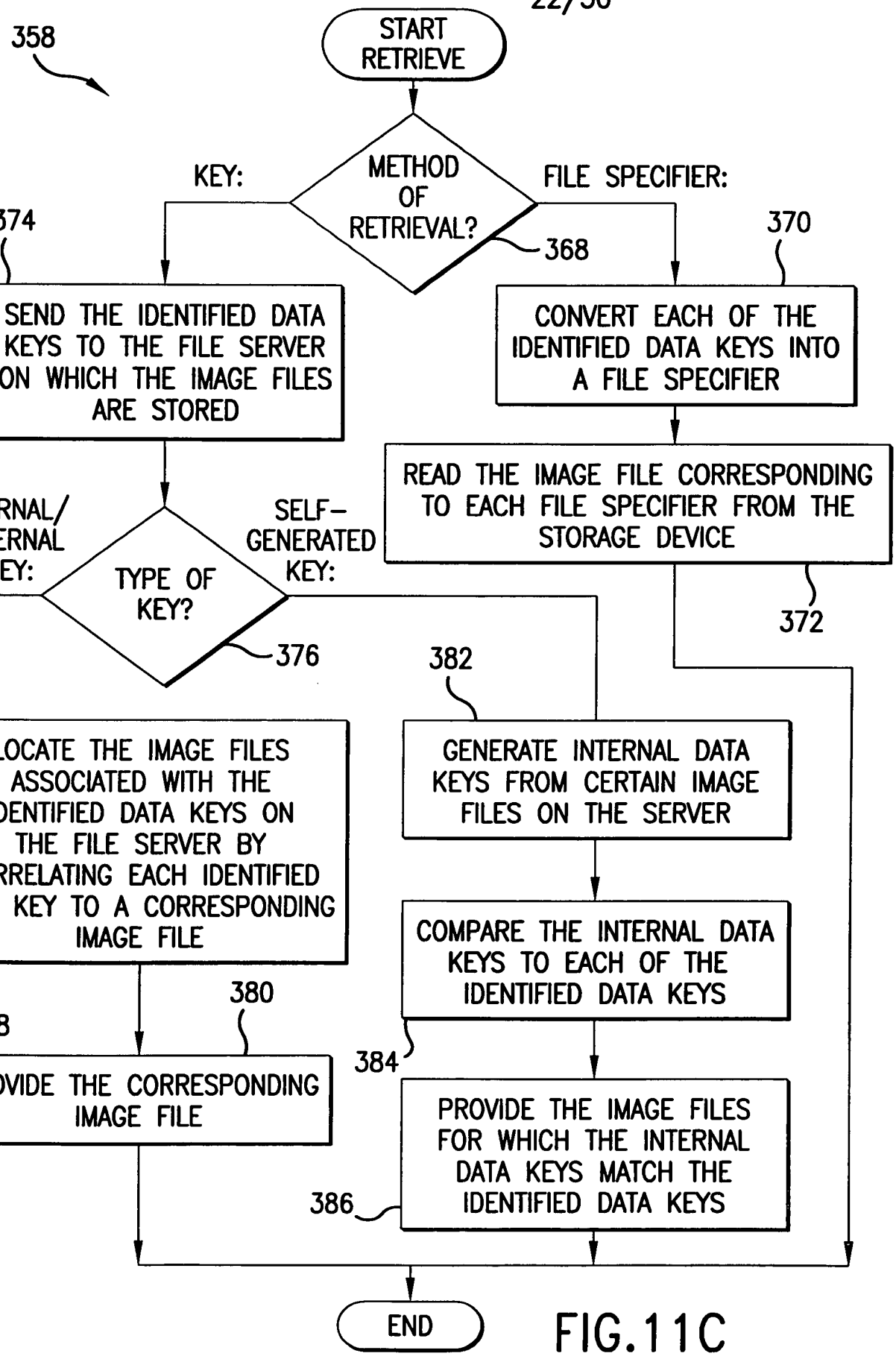

358
START RETRIEVE
METHOD OF RETRIEVAL?
368
KEY:
FILE SPECIFIER:
374
370
SEND THE IDENTIFIED DATA KEYS TO THE FILE SERVER ON WHICH THE IMAGE FILES ARE STORED
CONVERT EACH OF THE IDENTIFIED DATA KEYS INTO A FILE SPECIFIER
READ THE IMAGE FILE CORRESPONDING TO EACH FILE SPECIFIER FROM THE STORAGE DEVICE
372
INTERNAL/ EXTERNAL KEY:
SELF-GENERATED KEY:
TYPE OF KEY?
376
382
LOCATE THE IMAGE FILES ASSOCIATED WITH THE IDENTIFIED DATA KEYS ON THE FILE SERVER BY CORRELATING EACH IDENTIFIED DATA KEY TO A CORRESPONDING IMAGE FILE
GENERATE INTERNAL DATA KEYS FROM CERTAIN IMAGE FILES ON THE SERVER
COMPARE THE INTERNAL DATA KEYS TO EACH OF THE IDENTIFIED DATA KEYS
378
380
384
PROVIDE THE CORRESPONDING IMAGE FILE
PROVIDE THE IMAGE FILES FOR WHICH THE INTERNAL DATA KEYS MATCH THE IDENTIFIED DATA KEYS
386
END

FIG.11C

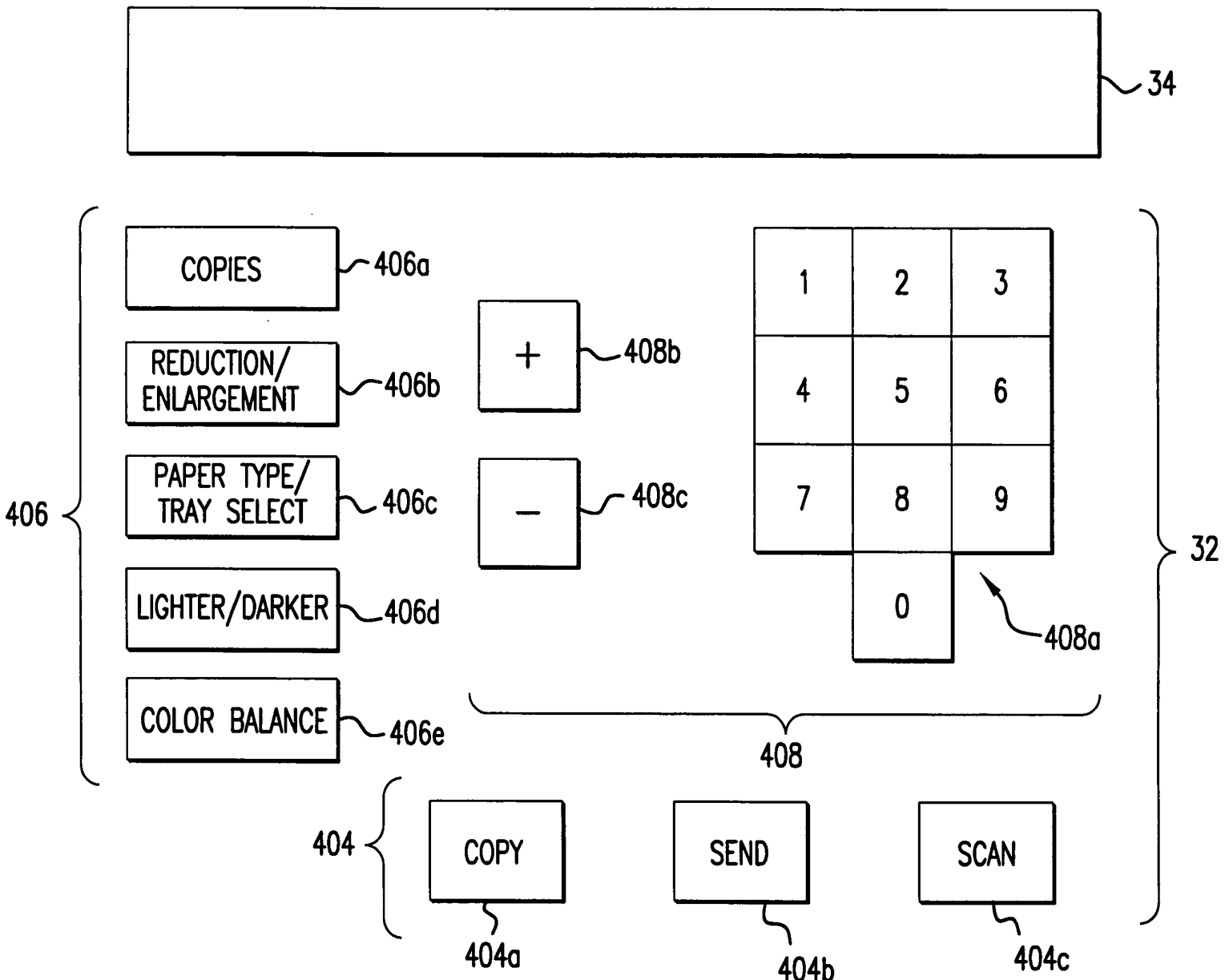
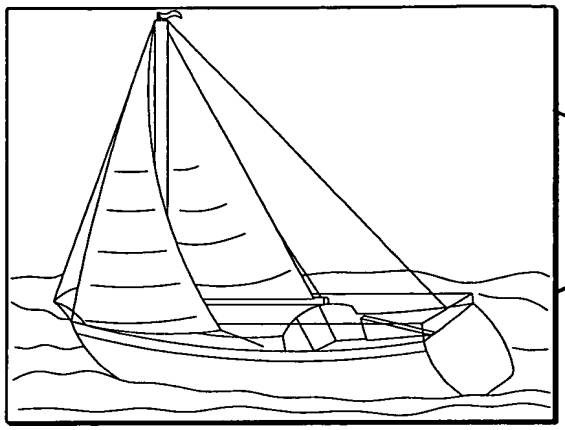

34
406
COPIES
406a
REDUCTION/ ENLARGEMENT
406b
PAPER TYPE/ TRAY SELECT
406c
LIGHTER/DARKER
406d
COLOR BALANCE
406e
+
408b
–
408c
1
2
3
4
5
6
7
8
9
0
408a
408
32
404
COPY
SEND
SCAN
404a
404b
404c

FIG.12



I

52

IMAGE PROCESSING PARAMETERS 400

OPERATION 402

SIZE	QTY
3.5x5 4x6 5x7 8x10 CSTM	○○○○○ ○○○○○ ○○○○○ ○○○○○ ●
BRIGHTNESS	○ LIGHT ○ ○ MEDIUM ○ ○ DARK
COLOR	BLUE RED GREEN
PAPER	○ PLAIN ○ PREMIUM ○ PHOTO ○ DELUXE PHOTO
OPERATION	○ PRINT ○ SEND ○ STORE

54'

FIG.13

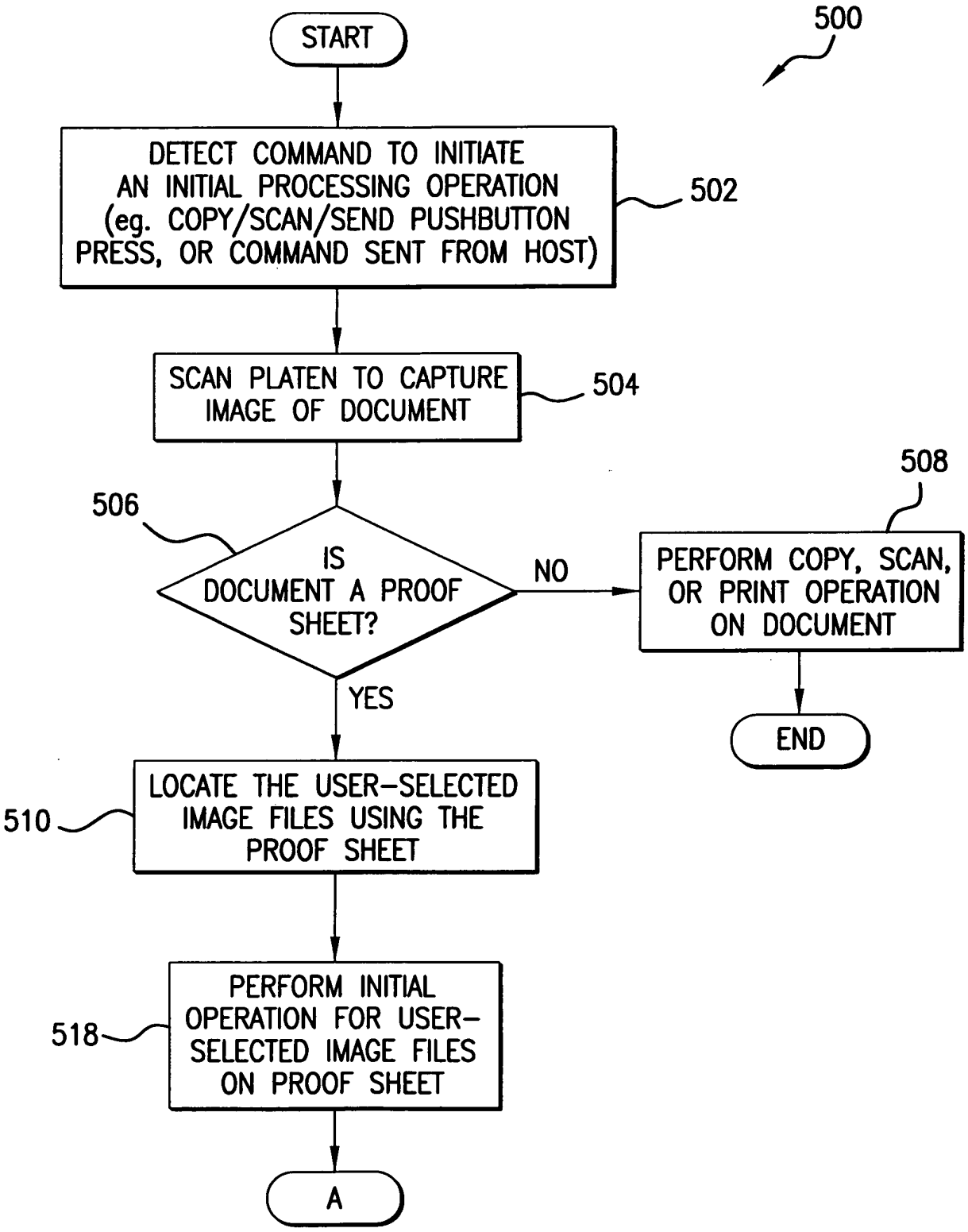

500
START
DETECT COMMAND TO INITIATE AN INITIAL PROCESSING OPERATION (eg. COPY/SCAN/SEND PUSHBUTTON PRESS, OR COMMAND SENT FROM HOST)
502
SCAN PLATEN TO CAPTURE IMAGE OF DOCUMENT
504
506
IS DOCUMENT A PROOF SHEET?
NO
508
PERFORM COPY, SCAN, OR PRINT OPERATION ON DOCUMENT
END
YES
510
LOCATE THE USER-SELECTED IMAGE FILES USING THE PROOF SHEET
518
PERFORM INITIAL OPERATION FOR USER-SELECTED IMAGE FILES ON PROOF SHEET
A

FIG.14A

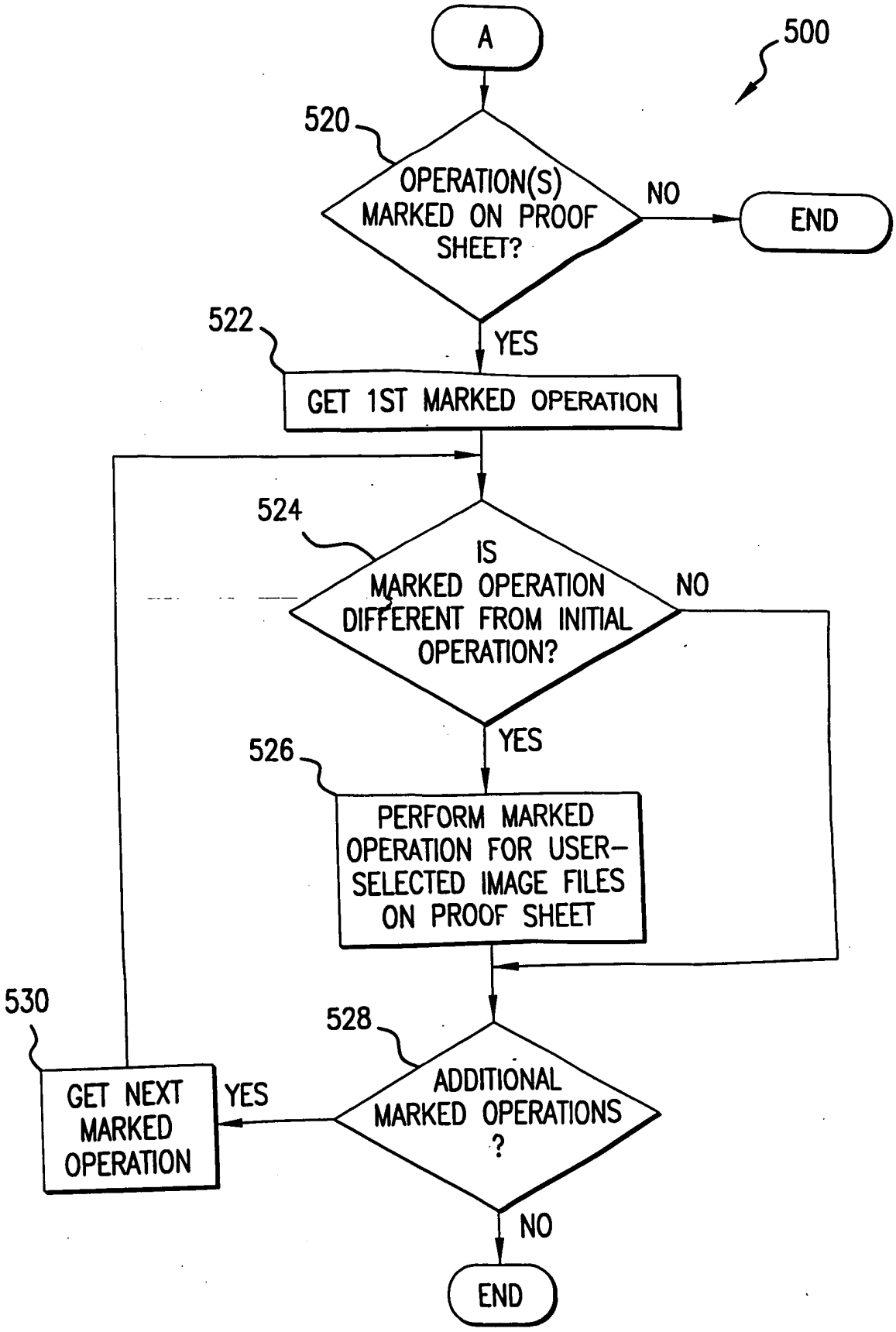

A
500
520
OPERATION(S) MARKED ON PROOF SHEET?
NO
END
522
YES
GET 1ST MARKED OPERATION
524
IS MARKED OPERATION DIFFERENT FROM INITIAL OPERATION?
NO
YES
526
PERFORM MARKED OPERATION FOR USER-SELECTED IMAGE FILES ON PROOF SHEET
528
ADDITIONAL MARKED OPERATIONS ?
YES
530
GET NEXT MARKED OPERATION
NO
END

FIG.14B

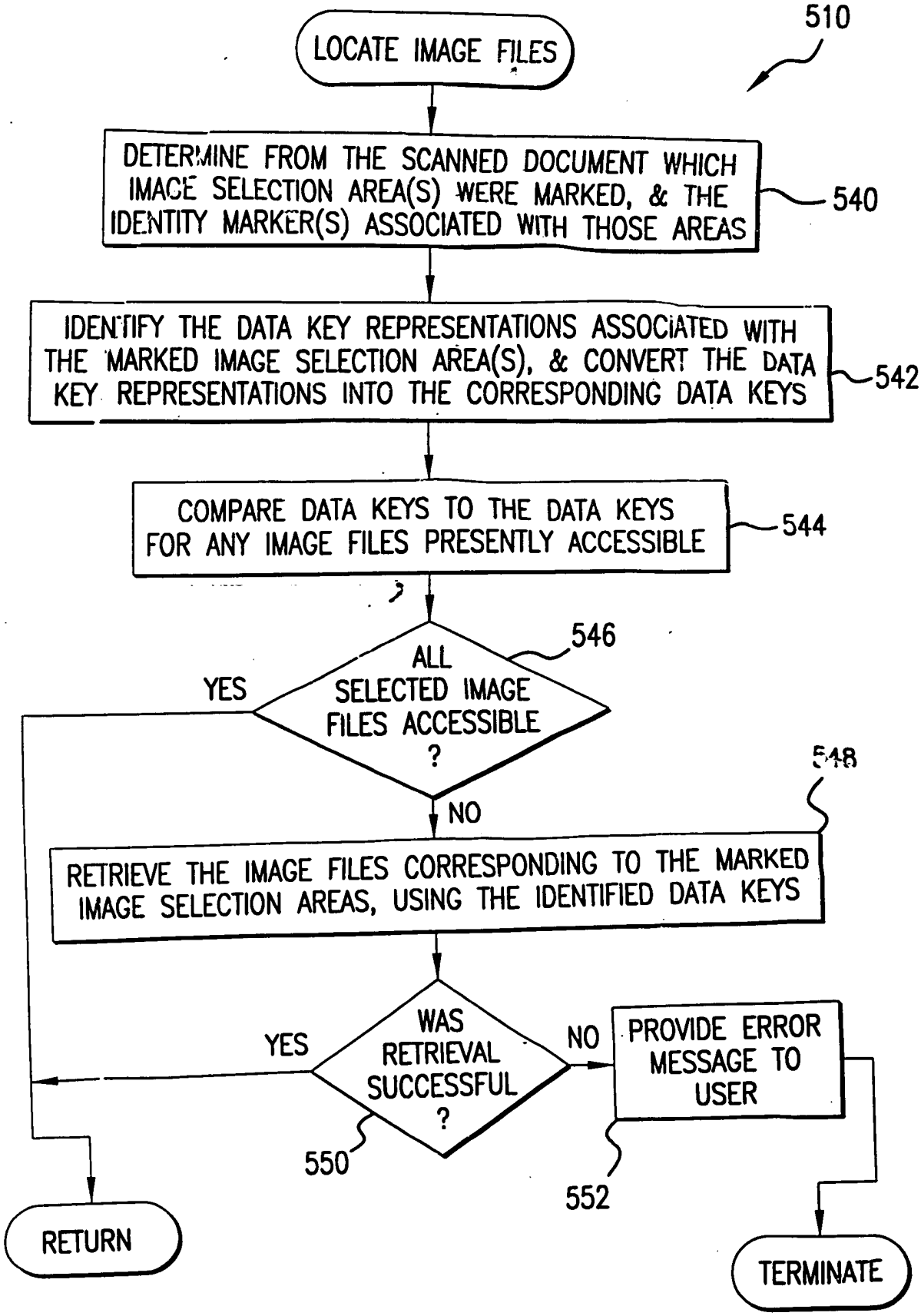

LOCATE IMAGE FILES
510
DETERMINE FROM THE SCANNED DOCUMENT WHICH IMAGE SELECTION AREA(S) WERE MARKED, & THE IDENTITY MARKER(S) ASSOCIATED WITH THOSE AREAS
540
IDENTIFY THE DATA KEY REPRESENTATIONS ASSOCIATED WITH THE MARKED IMAGE SELECTION AREA(S), & CONVERT THE DATA KEY REPRESENTATIONS INTO THE CORRESPONDING DATA KEYS
542
COMPARE DATA KEYS TO THE DATA KEYS FOR ANY IMAGE FILES PRESENTLY ACCESSIBLE
544
ALL SELECTED IMAGE FILES ACCESSIBLE ?
546
YES
NO
548
RETRIEVE THE IMAGE FILES CORRESPONDING TO THE MARKED IMAGE SELECTION AREAS, USING THE IDENTIFIED DATA KEYS
WAS RETRIEVAL SUCCESSFUL ?
550
YES
NO
PROVIDE ERROR MESSAGE TO USER
552
RETURN
TERMINATE

FIG.15

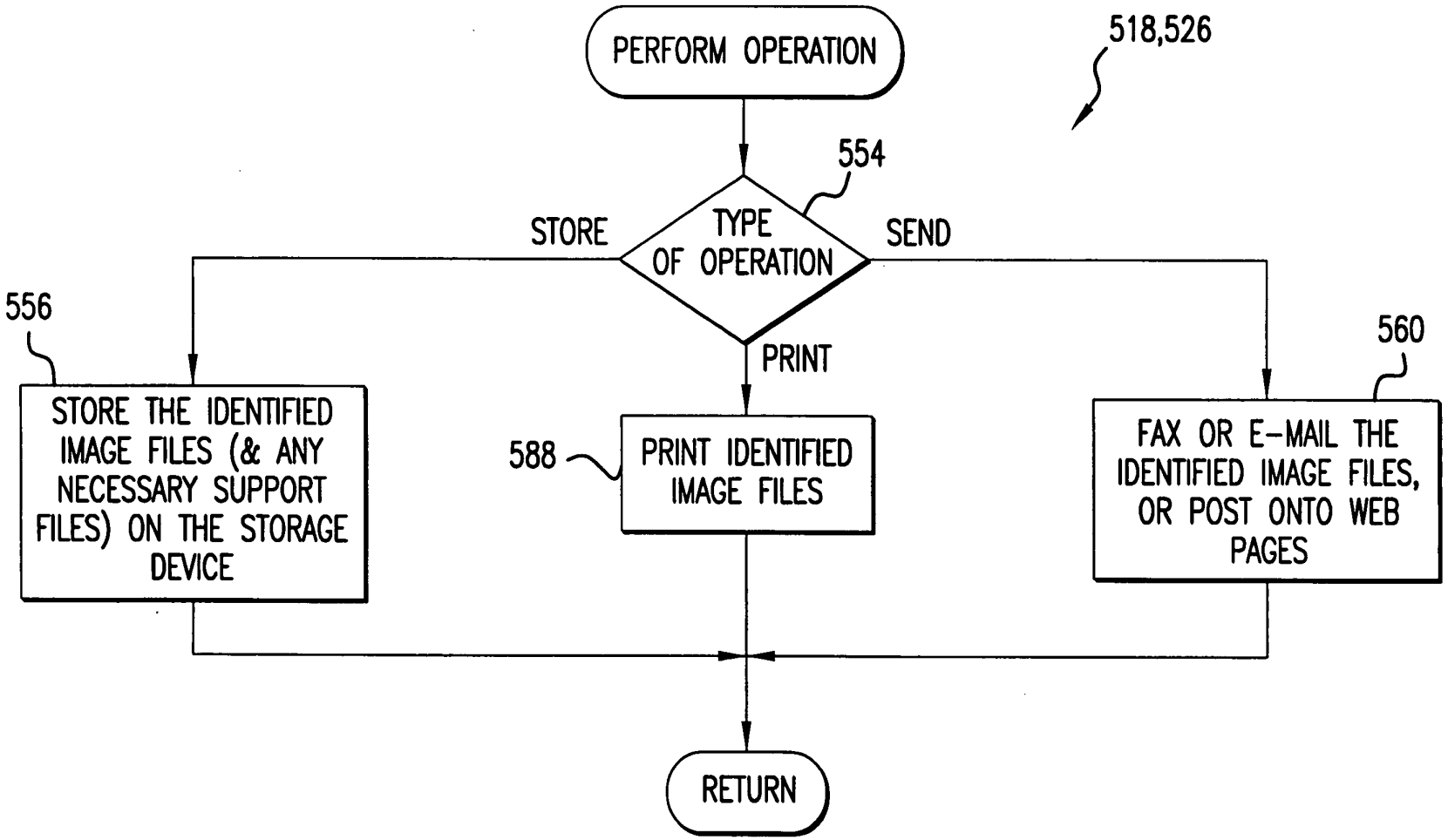

PERFORM OPERATION
518,526
554
TYPE OF OPERATION
STORE
SEND
PRINT
556
STORE THE IDENTIFIED IMAGE FILES (& ANY NECESSARY SUPPORT FILES) ON THE STORAGE DEVICE
588
PRINT IDENTIFIED IMAGE FILES
560
FAX OR E-MAIL THE IDENTIFIED IMAGE FILES, OR POST ONTO WEB PAGES
RETURN

FIG.16

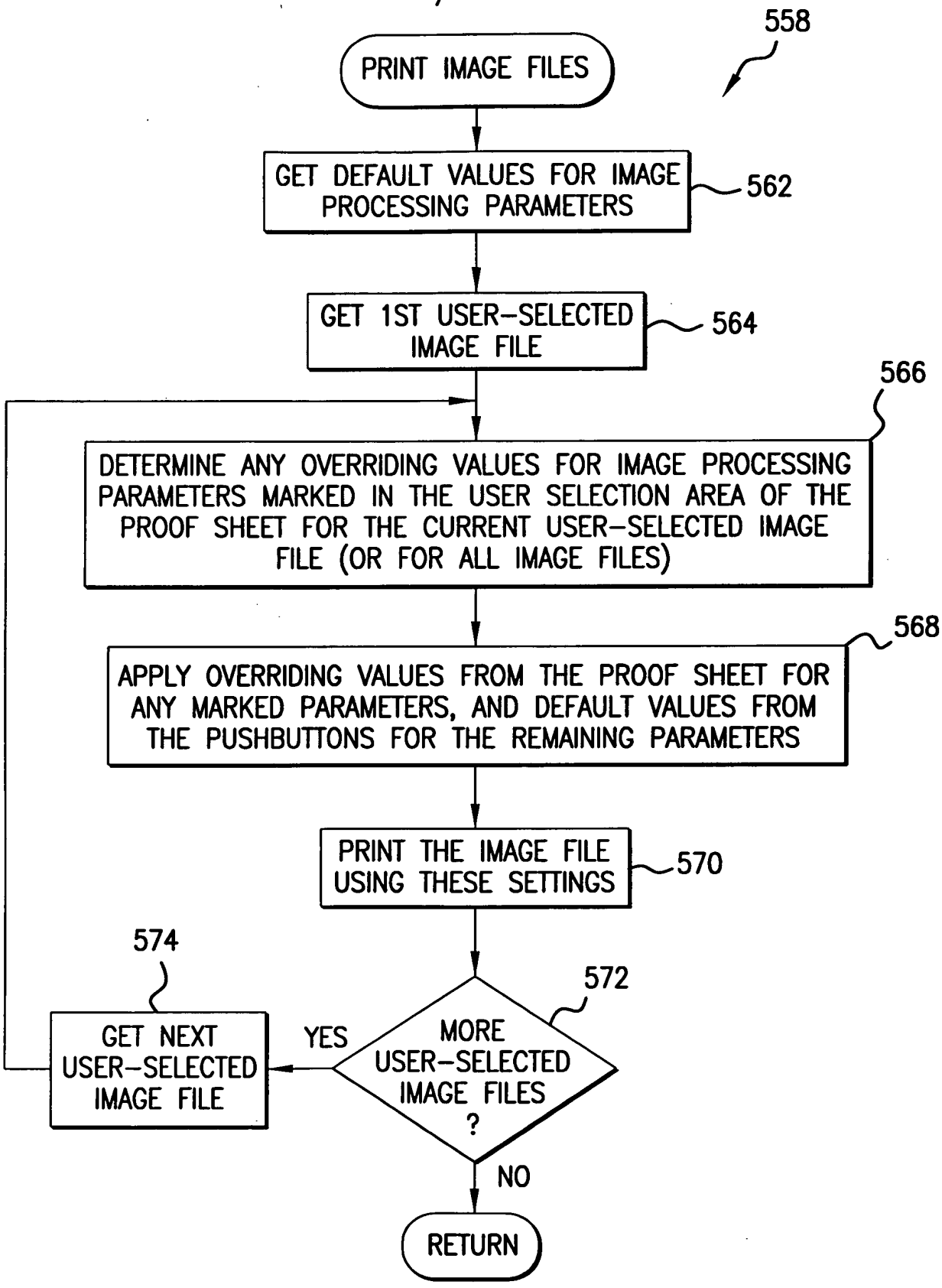

558
PRINT IMAGE FILES
GET DEFAULT VALUES FOR IMAGE PROCESSING PARAMETERS
562
GET 1ST USER-SELECTED IMAGE FILE
564
566
DETERMINE ANY OVERRIDING VALUES FOR IMAGE PROCESSING PARAMETERS MARKED IN THE USER SELECTION AREA OF THE PROOF SHEET FOR THE CURRENT USER-SELECTED IMAGE FILE (OR FOR ALL IMAGE FILES)
568
APPLY OVERRIDING VALUES FROM THE PROOF SHEET FOR ANY MARKED PARAMETERS, AND DEFAULT VALUES FROM THE PUSHBUTTONS FOR THE REMAINING PARAMETERS
PRINT THE IMAGE FILE USING THESE SETTINGS
570
574
572
GET NEXT USER-SELECTED IMAGE FILE
YES
MORE USER-SELECTED IMAGE FILES ?
NO
RETURN

FIG.17

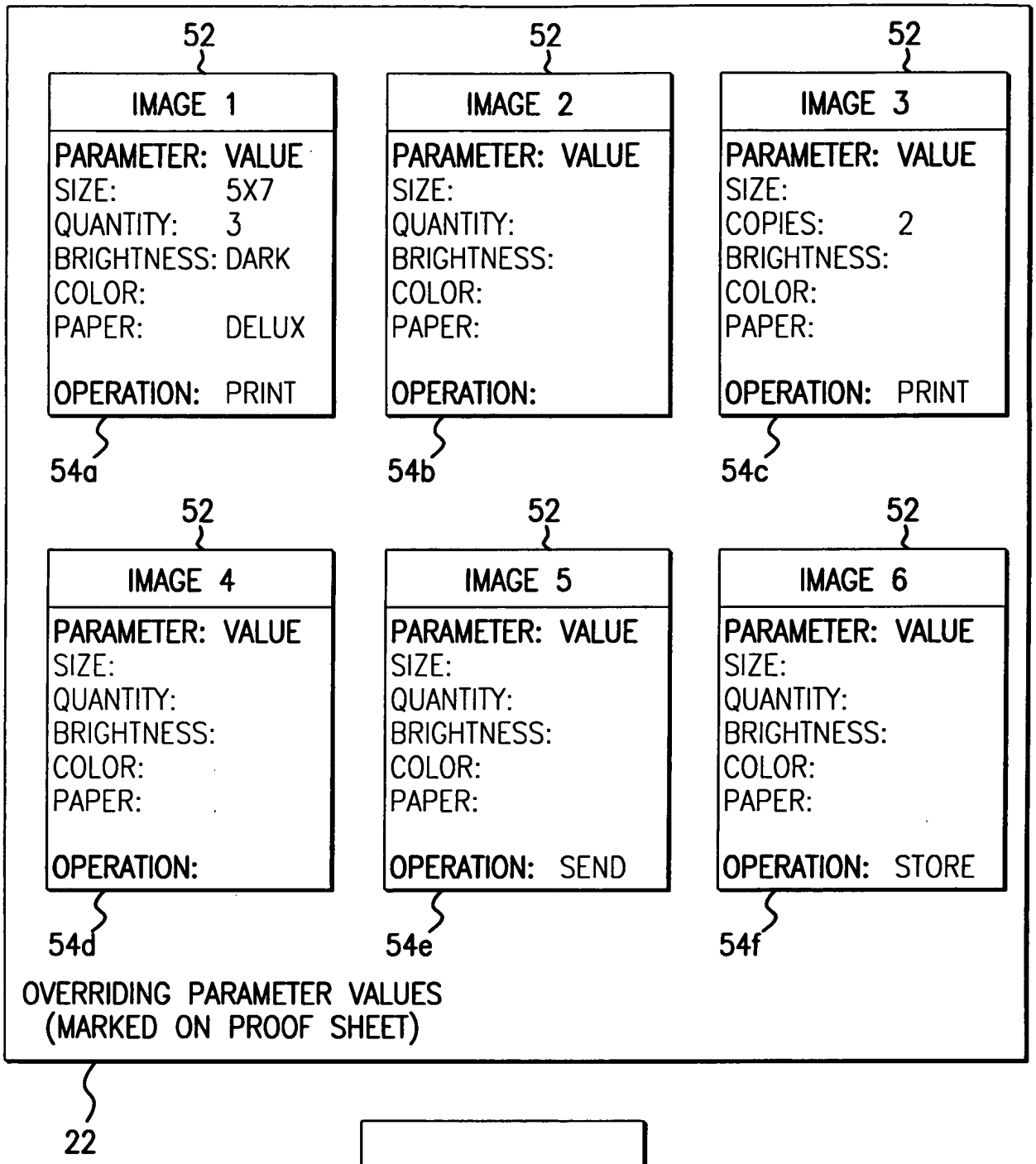

52
IMAGE 1
PARAMETER: VALUE
SIZE: 5X7
QUANTITY: 3
BRIGHTNESS: DARK
COLOR:
PAPER: DELUX
OPERATION: PRINT
54a
52
IMAGE 2
PARAMETER: VALUE
SIZE:
QUANTITY:
BRIGHTNESS:
COLOR:
PAPER:
OPERATION:
54b
52
IMAGE 3
PARAMETER: VALUE
SIZE:
COPIES: 2
BRIGHTNESS:
COLOR:
PAPER:
OPERATION: PRINT
54c
52
IMAGE 4
PARAMETER: VALUE
SIZE:
QUANTITY:
BRIGHTNESS:
COLOR:
PAPER:
OPERATION:
54d
52
IMAGE 5
PARAMETER: VALUE
SIZE:
QUANTITY:
BRIGHTNESS:
COLOR:
PAPER:
OPERATION: SEND
54e
52
IMAGE 6
PARAMETER: VALUE
SIZE:
QUANTITY:
BRIGHTNESS:
COLOR:
PAPER:
OPERATION: STORE
54f
OVERRIDING PARAMETER VALUES
(MARKED ON PROOF SHEET)
22
580
PARAMETER: VALUE
SIZE: 3.5X5
QUANTITY: 1
BRIGHTNESS: MED
COLOR: NORMAL
PAPER: PHOTO
DEFAULT PARAMETER VALUES (ENTERED AT COMMAND INTERFACE)

FIG.18